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ANOTHER YEAR IN THE RUBBER TRADE.

The first half of the Pará rubber season, which has just been reached, shows an increase of rubber receipts at that port over the same period a year ago, of 5½ per cent., with a greater total than in any former year. An incident of the year has been the construction of a submarine cable to connect Pará and Manáos, half long enough to span the Atlantic. This will put not only the growing rubber mart of Manáos, but sixteen intermediate points, all of which ship rubber, in telegraphic touch with rubber consuming markets. The sum of knowledge of the Pará rubber country is constantly increasing so that merchants in their private offices in New York or Liverpool, by reference to their correspondence, can predict with confidence the extent of a prospective crop, on account of their familiarity with details which, not so long ago, were wholly unsuspected. The announcement of an interstate exposition to be held at Pará evinces a quickening of national and municipal life there; the constant increase of exports from the Amazon has correspondingly swelled the revenues of the contiguous states and stimulated public improvements; the submarine cable will shorten the Amazon one half, and every new steamer improves the facilities of transportation. All these details have their basis in the crude rubber trade, which in turn, will profit from them.

Within a year or two past important discoveries have been made in the Orinoco valley, not only of a wider rubber producing area than was before known, but also of new species, and some earnest efforts are being put forth in the development of the rubber industry in different parts of the continent, north of the Amazon basin. Discoveries have been made in Africa, too, of new rubber districts and of rubber in trees not previously known to yield it. In every part of the east and west coasts where India-rubber exists efforts are being made to increase its production, while in the Congo region half a dozen Belgian companies are getting ready to ship rubber on a large scale upon the completion of the Congo railway, over which locomotives now run for ninety miles. In Asia not only is the normal yield of rubber maintained, but the output from Rangoon steadily increases, with the possibility that the rubber area may yet be found to extend beyond the eastern boundary of Burma across the lower arm of China to the seacoast.

The first point in a review of the year, therefore, is the increased confidence which it gives in the continuance of a sufficient rubber supply.

With regard to the prices of rubber, the past year has witnessed an advance from a long-continued level which was lower than normal, principally on account of the late world wide depression of business. The manufacturers of rubber goods who had in some instances seen their prices fall to uncomfortably low figures, may be said to have been benefited by the advance in crude materials, from the leverage which it has afforded for raising the prices of manufactured products. At the close of the year the price of Pará rubber is lower than at one time seemed probable, on account both of the heavy receipts from the new crop and of the partial suspension of manufacturing due to the open win-

ter and consequent slow sale of certain classes of goods. The shoe trade seldom has experienced such an absence of snow as has marked the present winter, while the dry weather has had equally serious results on the sale of mackintoshes. While sales in these lines by manufacturers were unusually heavy at the beginning of the season, and in some cases have remained so up to date, the fear is entertained that jobbers and retailers may be found holding such stocks at the end of winter as to seriously limit buying a year hence.

The weather of a single season, however, is but an incident in the condition of the rubber industry as a whole. No other industry, in America, at least, is in a better condition or has recovered more fully from the financial panics of 1890 and 1893 and the attending circumstances. Not that the conditions of the industry are such as to tempt outsiders to rush into it, but there is assured to the rubber-manufacturer a constant demand, in ever-increasing volume for his products, so long as their quality is maintained. Most kinds of rubber goods are to be classed as articles of necessity, they are of universal consumption, selling in small quantities and at prices within the reach of the multitude, and the demand is little affected by changes of fashion or custom. For these reasons, and the added one that no satisfactory substitute for India-rubber is known, the condition of this industry is such that it cannot fairly be regarded as a barometer of trade in general—it is too favorable for that.

IF THERE SHOULD BE WAR WITH ENGLAND.

WHILE there has been no panic outside a temporary flurry in stock speculations as the result of President Cleveland's message on the Venezuelan question, naturally there has been some talk as to what would happen in case war should result from the insistance that the "Monroe doctrine" would be violated by Great Britain's setting her own limits to the territory of British Guiana. One reason why this question should occur more naturally to rubber-men than to some other classes is that their industry is based upon a commodity which is wholly imported, whereas most other American industries could be supplied with raw material, if they are not now, from domestic sources. Yet in the rubber trade it could not be found that the interest in war possibilities was general.

Herman Reimers, of Reimers & Meyer, rubber importers of New York, said: "We have not thought the matter of enough importance to form opinions about it. When war comes, we will tell you what are the effects upon the importation of crude rubber. But the production of rubber will go right on, war or no war, and Brazil will be glad to sell it to anybody who will buy. She cannot afford to lose the revenue from it."

But there are some members of the trade with very decided opinions on the subject of the effect of war, and who believe the complications likely to grow out of President Cleveland's policy serious enough for consideration.

Shipton Green, agent of the Red D line of steamers, sailing to Brazil, and a large receiver of rubber here, said:

"An immediate effect of the declaration of war between the United States and England would be higher prices for rubber in this country. The amount of rubber here to day probably is no greater than manufacturers' requirements for six weeks, and in the event of war further supplies would be cut off. In no case could enough rubber be accumulated in advance to last through a war, for if these two great powers should fight, it would be a matter of years—until one or the other should become exhausted.

"All the rubber imported by the United States is carried by English ships, the only American line in that trade having collapsed. Of course, in time of war, no English ships would aid Americans by bringing rubber here. Nor would the ships of any other European power, for their interests and sympathies would all be on the side of England. The nations which might remain neutral have no shipping. Outside of England, most of the ships in the world are needed in the commerce of the countries where they are owned. But even if shipping should be transferred to neutral flags, it would not help the rubber industry here, for immediately upon the declaration of war British naval vessels would be stationed at every American port, creating a blockade that would effectually shut out supplies.

"It would avail nothing for the sympathies of Brazil to be on the side of the United States. A single British gunboat could command the mouth of the Amazon, through which all the Pará rubber is exported. No doubt the price of rubber would decline there, owing to the obstacles to the trade in this commodity. A war would lead to increased demands for certain manufactures of rubber for military supplies, but on the whole I should say that the rubber trade has no reason to wish to see a war."

The opinion most generally shared, however, appears to be that voiced in the following sentences:

A. H. Alden, vice-president of the New York Commercial Co., Limited, said:

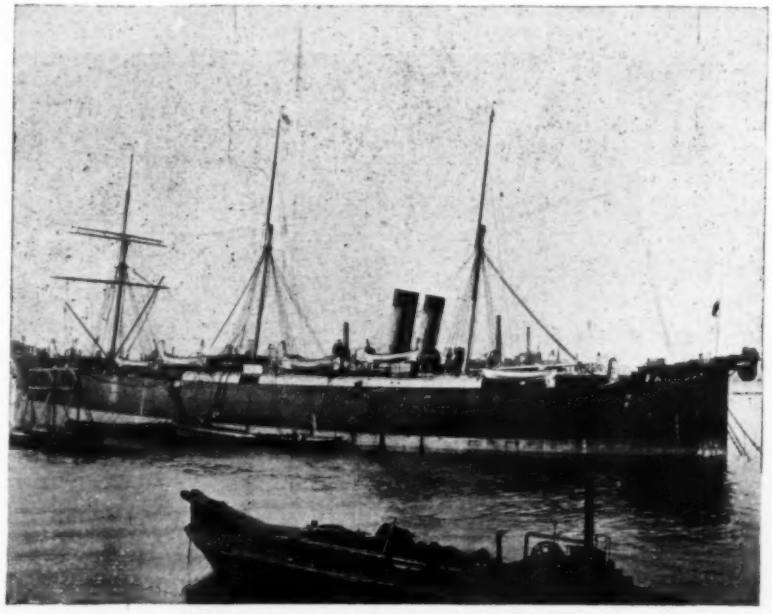
"There is no reason for the rubber trade to feel worried over the probable effects of war with England or any other country, even if the possibility of such a thing existed. We can always get as much rubber as we need. The gathering of rubber up the Amazon valley and in the forests of Africa would not be checked by war between the United States and Great Britain, and there are too many ships in the world nowadays for anybody to suffer very long for lack of facilities for its transportation. Suppose that, in case of war with England, the ships of that country should stop carrying rubber to us, and suppose that we are without ships to take their places; or suppose that none of the European countries should remain neutral, so that their ships could bring us supplies—why, there are still other powerful countries in the world. How long would it be before enough ships were transferred to their flags for all our carrying trade? There is Japan, for instance, which might find an opportunity to make a start in the shipping business on a large scale. I do not believe that war would make any difference about our getting plenty of crude rubber, except in so far as it might affect prices. We have a good many seaports, and if New York should be blockaded, some other landing-place for rubber could be found."

CABLE-REPAIR SHIPS OF THE WORLD AND THEIR WORK.

A FLEET MAINTAINED BY A SINGLE USE OF GUTTA-PERCHA.

By Gustav Heinsohn.

THE laying of an ocean cable is quickly accomplished. Even its manufacture is a matter of only a few months; but its maintenance requires ceaseless vigilance so long as the wires are in service. The early recognition of this fact appears from the name of one of the greatest cable-manufacturing concerns—The Telegraph Construction and Maintenance Co., who were identified with the first successful Atlantic cable. How long a cable will live is an unsettled problem. "The life of a cable," by the way, is an apt term; none other so fitly describes the period of usefulness of this wonderful hidden artery, which connects continents one with another, but is liable without warning to any one of a thousand dangers, even if no "faults" are developed from inherent weaknesses. It is a wonderful tribute to the profession of electrical engineering that all the trans-atlantic lines laid from 1869 down are still in working order. But it is even more surprising that the first sheathed submarine cable ever laid—a multiple cable of four cores, between Dover and Calais, finished in 1851—should still be in use. It is true that so many repairs have been effected that only a very short length of the original cable remains, yet the line, as a medium of communication, has remained intact.



SIEMENS BROTHERS & CO.'S CABLE-SHIP 'FARADAY."
[*By courtesy of the Commercial Cable Co.*]

It may well be claimed that submarine telegraphy calls for the highest order of electrical skill; but it is less in the original manufacture and laying of cables than in the subsequent correcting of faults and the repairing of breaks that the ingenuity of the electrician has been taxed. It was, in fact, the discovery that a cable once lost in the bottom of the ocean could be recovered and utilized that gave the first great impulse to the idea of value in cable property. Captain James Anderson, the commander of the *Great Eastern*, who picked up the Atlantic cable of 1865 where it had parted in 2000 fathoms of water, established the possibilities in the field of cable-repairing, and was knighted by Queen Victoria for the value of his services to science. Since that time every break in a submarine cable upon which the attempt has been made has been successfully repaired. The work of this kind required every year is of no small volume. Twelve months selected at random from the files of an electrical journal showed a record of thirty-two cable interruptions, every one of which was subsequently reported repaired, after intervals of from one day to five months.

All of this leads to the subject of cable-ships, of which there are about thirty-six in commission. Besides laying cables their work is to patrol the seas, as it were, to protect the 152,000* miles or more of submarine cables now in use. As already mentioned in THE INDIA RUBBER WORLD, the laying of cables no longer than 5000 feet across the rivers at New York requires such careful handling that a specially-constructed steam tug has been provided for the work. Naturally, then, at the very outset of cable-laying, the special needs in the way of ships for the purpose began to be studied. And neither in naval nor in marine architecture have designers worked with greater success in overcoming difficulties or in adaptation to requirements than in the construction of cable-ships. There has been great advancement from the details of the first fully-equipped cable-ship—the *Monarch*, a 500-ton paddle-wheel steamer, built in 1830 and bought and remodelled in 1853 by the Electric and International Telegraph Co. to lay "the Hague cables." The *Monarch* started out with a tug, it

* The total length of all the submarine cables laid up to the present time according to one of the electrical journals, is about 157,713 nautical miles. The mileage in operation at the end of 1892, according to the "British Electrical Directory," was 148,882. Writing at the beginning of 1892 in *The Electrician*, Mr. H. D. Wilkinson mentioned 136,000 miles as the length of cable submerged. Sir John Pender, in a public address in the summer of 1894, spoke of 152,000 miles of submarine cables in use in the world. The remarkable growth of this interest is shown by comparing these figures with *The Electrician's* estimate in 1884 of "between 60,000 and 70,000 miles." G. H.

not having been deemed prudent theretofore to trust a single vessel to carry a cable, lay it, and keep her course across the English channel. But her commander, finding that she answered the helm well, and relying upon her own engines, soon cast off the tug.

The *Monarch* proved to be a pioneer in so broad a sense that much of the practice on board of cable-ships to-day dates back to her. She was the first ship to grapple for a lost cable and successfully carry out a repair. This fact, by the way, important as it was, does not lessen the credit due to Sir James Anderson for his work above referred to. As a result of four years' work on board of this vessel, F. C. Webb gradually evolved and organized the system of picking-up and paying-out gear, cable-buoys, mushroom-anchors, bridles, and grapnels, the originals of those in use at the present day. The *Monarch* ended her career in the service of the British post-office telegraph department, and was replaced twelve years ago by a new *Monarch*, a specially-built telegraph-ship of 2073 tons, designed to meet the difficulties attending repairs near the British coasts in shallow water of great tidal force.

The average gross tonnage of cable-repairing ships for deep sea work is between 1000 and 1500 tons, though twelve or more of them vary from 300 to 1000 gross tonnage. The very large vessels, of gross tonnage ranging from 2000 to 5000 tons, are owned by the cable manufacturing companies, the great advantage of their size being that, in the laying of new cables, the capacity of their tanks is sufficient to permit the taking out of 1000 to 2000 miles of cable on a single trip. The coal capacity is also of importance, as fuel may be required for several months of continuous steaming. Thus the loading of the *Silvertown*, on its principal Central and South American expedition, was distributed as follows :

	Tons.
Cable—2370 knots	4881
Coal	1660
Fittings, gear, etc.	111
Provisions and water	159
Total	6811

This caused a draft of 27 feet forward and 29½ feet aft —the greatest draft of any merchant steamer except the *Great Eastern*. At another time the *Silvertown* carried 2600 knots of cable. On still another expedition she carried 2160 knots of mixed cable, representing alone a dead weight of 5000 tons. But steamers for deep sea work designed for repairing purposes alone, and therefore not required to carry great lengths of cable, have a gross tonnage averaging less than 1500 tons. The largest cable-ships in the world are the following :

	Tonnage.
Silvertown (one of four owned by the India-Rubber, Gutta-Percha, and Telegraph Works Co.)	4935
Faraday (owned by Siemens Bros. & Co.)	4916
Scotia (owned by the Telegraph Construction and Maintenance Co.)	4667
Seine (ditto)	3553
Calabria (ditto)	3321

An important feature of these great ships is the storage-room for the cables, usually in the form of three or four circular tanks, their position being regulated with regard to the trimming of the ship. The total dead weight of cable is, as far as possible, equally distributed over the ship. The three tanks aboard the *Silvertown* are all 32 feet in depth, the main tank (amidships) being 53 feet in diameter, the fore tank, 46 feet, and the after tank, 51 feet. The main tank alone, filled to the depth of 29 feet, would hold 2850 knots of deep-sea cable. But the tanks on these steamers are seldom filled to their capacity, since they would hold enough armored cable to sink the ships. Until such matters were better understood it was necessary, when a cable was to be laid, to secure a ship to serve simply as a hulk for storage purposes, all the machinery being removed, and a second ship being employed to tow it.

THE FINAL SPLICE.*

[*By courtesy of the Commercial Cable Co.*]

The cable-ship *Faraday*, which has laid seven of the twelve transatlantic cables now in working order, and which is now on the Amazon, laying the Pará-Manáos cable, is of a very distinct type. It may be called one of the masterpieces of the late Sir William Siemens, who, by 1873, had decided the practice to be unsatisfactory of adapting existing ships for cable expeditions, and determined that the requirements for such a ship demanded a special design throughout. His design of the *Faraday* seems to have fulfilled these requirements to a very marked degree. She was built by Mitchell & Co. and launched at Newcastle-on-Tyne in February, 1874. The *Faraday* is remarkable for the exact similarity of bow and stern, hand and steam-steering gear being fitted at both ends, enabling her to answer the helm equally well when

* The engraving represents the final scene in the laying of the third cable of the Commercial Cable Co. It is at the joining of the deep-sea portion of the cable to the shallow-water part, about 1600 knots out from the Irish coast. On the morning of July 2, 1894, "the final splice was made, the cable gently lowered to the water, and, amid wild enthusiasm and cheering, the retaining rope hacked asunder with two mighty axes wielded energetically by Count Von Siippenbach and Mr. John Gott."

going astern. Being a twin-screw boat, she can be turned in her own length, and maneuver with great ease and promptitude. Her measurements are: Length, 360 feet; beam, 52 feet; depth, 36 feet; registered tonnage, 5000; coal-bunker capacity, 1700 tons; after and amidships tanks, 45 feet in diameter, and fore tank, 37 feet in diameter—all 30 feet in depth. The *Faraday* has carried to sea 1962 knots of mixed cable, weighing 4500 tons, and has remained out for three months without recoaling. She has a picking-up gear capable of lifting 30 tons at a speed of one knot per hour, and once repaired a break in the Direct United States cable, in a depth of 2680 feet, within forty eight hours. Up to three years ago the *Faraday* had a record of twenty-three cable-laying expeditions, representing a mileage of 20,130, of which 18,952 miles were across the Atlantic. She has since laid the third cable of the Commercial Cable Co. across the Atlantic, measuring 2201 miles, and the Pará-Manáos cable, measuring 1365 miles, besides other work. The two preceding cables of the Commercial Cable Co., aggregating 6098 miles, were manufactured and laid by the Messrs. Siemens within one year from the date of the order. When at home the *Faraday* lies in the Thames, off the Siemens works at Woolwich.

As a rule no two cable-ships are exactly alike, and the methods of different companies differ. But the *Pouyer-Quertier*, a steamer of 1385 tons built in 1879, was designed on lines similar to those of the *Faraday*. It is owned by the Compagnie Française des Câbles Télegraphiques, is stationed at Havre, and keeps in repair the company's two cables to New York.

A notable repair-ship is the *Minia*, belonging to the Anglo-American Telegraph Co. and frequently chartered by the Western Union Telegraph Co. and the Direct United States Cable Co. The *Minia* in 1894 made a repair on a cable at a depth of nearly three miles. The *Mackay-Bennett* (1700 tons) is owned by the Commercial Cable Co., of New York, and keeps in repair their 9109 miles of cable. She was built by John Elder & Co. and launched on the Clyde in 1884, having been designed with special reference to securing good steering and maneuvering qualities. The *Electra* (1096 tons), owned by the Eastern Telegraph Co., well represents the modern type of cable-ship. The Great Northern Telegraph Co., one of the most important of existing cable companies, own two repair-ships of compact form and light tonnage and admirably fitted for their work, and the writer has their record for 1894. The *Store Nordiske* (832 tons) is designed for repairing the company's nine cables (in thirteen sections) connecting northern China, Japan, and Corea with Vladivostock and the trans-Russian land lines. During the year nine breaks, in five cables, were repaired, the work occupying 127 days. The *H. C. Oersted* (750 tons) has oversight of the twelve cables (in sixteen sections) connecting Russia with the ports of western Europe. During the year her work consisted of the repairing of thirteen breaks in six cables, for which 115 days were required. It will readily be seen that the maintenance of the cable-repairing fleet of the world is no small item. During five recent years the average annual cost of the two repair-ships of the Western and Brazilian Telegraph Co. was $122,410—or over $10,000 per month. Cable companies not owning repair-ships have to pay from $800 to $1200 per day for their use, and the income from such sources is a welcome item to the owners of the steamers.

Part of the system of maintaining submarine cables consists in means for storing cable on shore at convenient stations, greatly facilitating speedy repairs. The British government have two such stations, at Woolwich and Dover; the Eastern and Eastern Extension Telegraph companies have several at Singapore, Hongkong, Sydney, etc., the Eastern and South African Co. at Zanzibar, Mossamedes, etc., and the Great Northern Company at several points.

There are altogether more than a hundred telegraph cables—in all about 1000 miles—in and about the British isles, by which the most important outlying islands are connected with the mainland, and various estuaries, bays, and arms of the sea crossed. There are other cables to the continent, aggregating, with the preceding, about 3000 miles, kept in repair by the government cable ships, the expense being borne by their owners or shared by the joint owners. One of the government ships is the *Monarch*, already mentioned; the other is *The Lady Carmichael*, a paddle steamer of 760 tons, the experience of which has shown that paddles are often better than propeller-blades for maneuvering in shallow water.

The gearing for paying out cable, and all the various apparatus for lifting a broken or faulty line, and the devices for cutting, splicing, repairing the insulation, etc., could not be adequately described in a single article. Nor are these special devices all that are involved in the construction of a cable-ship. There are important considerations in the design of the hull, and in the arrangement of machinery to make room for the cable-tanks, and special steering machinery, due to the changed form of machinery and the necessity for sudden stoppages. In addition to the invaluable work of laying cables throughout the world, with so important a bearing upon commerce and international relations, the cable-ships have incidentally contributed much to science as a result of the innumerable deep sea soundings taken in the course of their work. The cost of all the work here outlined, since the care of cables first began, has been very great, and yet its object has been, for the most part, to stop leaks in the Gutta-percha insulation of the submarine wires—a single fault in 2000 miles of cable rendering valueless an installation costing millions.

To return to the *Faraday*, special credit is due to the Messrs. Siemens for their services in the field of ocean telegraphy. It was Dr. Werner von Siemens who, in 1847, proposed the use of Gutta-percha for insulating subterranean telegraphs, and who successfully carried out experimental lines coated with Gutta-percha by means of a press invented by him for that purpose, which is still used in the manufacture of cables. With the help of these insulated wires he laid the first submarine mines with elec-

tric ignition in the spring of 1848, for the protection of the harbor of Kiel for the Danish fleet. Associated with him in the important work of cable building was Sir William Siemens, whose designing of the *Faraday* has been referred to above. The present head of the Siemens company, Mr. Alexander Siemens, is no less active than his distinguished predecessors in watching and participating in the progress of submarine telegraphy. But the father of the ocean-cable interest, in the sense that it was his efforts which first secured the necessary financial basis for spanning the Atlantic successfully with a cable, and subsequently for encircling the globe with submarine wires, is Sir John Pender. It was his suggestion to organize the Telegraph Maintenance and Construction Co. by the amalgamation of the leading cable makers of thirty years ago, first to build an Atlantic cable and afterwards many of the other important lines of the world. Below is a list of the Atlantic cables up to date, showing the division of the work between the two construction companies:

By the Telegraph Construction and Maintenance Co. and their Predecessors:

1858. The original cable. (Laid by the *Agamemnon* and *Niagara*.)
1865. (By the *Great Eastern*.)
1866. (By the *Great Eastern*.)
1869. Anglo-American Cable Co.
1873. Anglo-American Cable Co.
1874. Anglo-American Cable Co.
1880. Compagnie Française des Câbles Télegraphiques.
1894. Anglo-American Cable Co.

By Siemens Brothers & Co. (by the "Faraday"):

1875. Direct United States Cable Co.
1879. Compagnie Française des Câbles Télegraphiques.
1881. Western Union Telegraph Co., northern cable.
1882. Western Union Telegraph Co., southern cable.
1884. Commercial Cable Co.
1884. Commercial Cable Co.
1894. Commercial Cable Co.

The promptness and certainty with which a cable at the bottom of the ocean is located by a cable-ship is surprising to one who remembers that it may be lying miles away from where it was originally laid, or that it may really have been laid at right angles to the supposed course of the ship in the first instance. The work of paying out a cable does not stop for storms, and the path of the cable turns constantly with the veering of the ship. Yet the repair-ship with its grapnels scours miles of sea-bottom with as much confidence as the old-time farmer felt in searching, from time to time, for the old oaken bucket in the bottom of his well.

NOTE.—Acknowledgment is due to Mr. H. D. Wilkinson's recent articles in *The Electrician* (London) for the dimensions and some other facts respecting the repair-ships named above. G. H.

ALEXANDER GRAHAM BELL'S latest mechanical device is in the line of practical utility, like most of his inventions. It is intended for the fishermen who are frequently cut off from their vessels by fog, and lose their lives as frequently by lack of drinking water as by exposure. The invention consists of a glass cylinder or bottle, through the neck of which is a small rubber tube. The glass is submerged, and a brass cylinder, acting as a bellows through the rise and fall of the waves, pumps the atmosphere into the submerged bottle. There it becomes condensed, and a supply of fresh drinking water is always to be obtained.

INDIA-RUBBER GOODS IN HOLLAND.

HOLLAND continues to import the India rubber and Gutta-percha goods needed by the people of that country. The tariff of import duties is purely a fiscal one, and not of a protectionist character, and the rate on goods of the class named is 5 per cent. *ad valorem*, with certain exceptions. Belting for machinery, whether of rubber, leather, or cotton, is imported free. The same is true of rubber hose or tubing forming a part of agricultural or other machinery or of fire-engines. Life-saving apparatus must pay duties according to whether rubber or some other article is the component material of chief value. Holland imported from the United States in 1893 India-rubber goods of the value of $98,457.

RUBBER ITEMS FROM GERMANY.

THE stocks of the United Hemp-Hose and Rubber-Goods Factories in Gotha for some time past have shown an upward tendency. The placing of the new shares to the amount of 350,000 marks was easily accomplished. Besides, the amount of business done by the old works of the company, as well as the lately-acquired Magdeborg works, since the beginning of the year, has shown an advance over the same period of 1894. By increasing their capital the company have become more solid, increasing the reserve fund beyond the statutory requirement and assuring the company against the further payment of interest upon borrowed capital.

The Munden-Hildesheim Rubber-Goods Factory of Wetzell Brothers (stock company) will divide net gains for their fiscal year 1894-95 amounting to 159 300 marks, their capital stock being 1,100,000 marks. A 10-per-cent. dividend will dispose of 110,000 marks, and the remainder goes into different funds.

At the Lubeck Trade and Industrial Exposition a silver medal was awarded to Fritz Wohlenberg (Hanover), for his display of asbestos and rubber goods, including packing and insulated wire.

A SUBSTITUTE FOR RUBBER BEER-STOPPLES.

A RECENT invention which has come into prominence within the last two or three years, says the New York *Sun*, is the tin cap on the top of beer-bottles. This appliance is steadily taking the place of the rubber cork with the iron thumb lever. It is found that the sulphur in the rubber cork is acted upon by the beer, with the result of causing the rubber to deteriorate and spoil the beer. An offer from some whiskey makers is attracting the attention of inventors. It is a reward of from $25,000 to $50,000 for an appliance on bottles which will prevent their being refilled. As it is now, all the great whiskey and beer manufacturers are constantly getting letters from people who complain that they have received inferior qualities of liquids under well-known labels. Of course it is impossible without some such appliance for manufacturers to guarantee the contents of bottles. All appliances so far with this end in view have been unsatisfactory.

AT a trial of an electric car fender at Newtonville, Mass., recently, large-sized rubber dolls were thrown on the track, the fender picking them up very nicely. The use of these was necessary, because it was impossible to borrow live babies for experimental purposes.

THE RUBBER-TREES OF BRITISH WEST AFRICA.

By Hawthorne Hill.

A NEW source of India-rubber reported from the west coast of Africa promises to be of greater and of more immediate value to commerce than any other recent discovery of the kind. It has only of late been learned that a certain tree long known to botanists is capable of yielding a good quality of rubber in paying quantities, and that this tree abounds over a wide area of accessible territory. In consequence there has been a "boom" in rubber-gathering in the British colony of Lagos, compared in the last INDIA RUBBER WORLD to "the rush of a gold craze," and resulting in a wonderful increase in exports. This tree, known locally as "ire" or "irai," has been identified at the Royal G rdens, Kew, as the *Kickxia Africana* (Bentham), of the natural order *Apocynaceæ*, and its botanical characters are illustrated in No. 106 of the Kew *Bulletin*.

It is no small debt, by the way, that the India-rubber industry owes to the authorities at Kew—with the coöperation of other agencies of the government—for the active and systematic investigation of plants likely to yield rub ber, and especially in Africa, which probably affords a wider field for such investigation than any other part of the world. For example while consul general at Zanzibar, Sir John Kirk brought to light a new species of *Landolphia* and personally taught the natives its value, leading to an export trade in India-rubber from East Africa amounting to millions. The important production of the Gold Coast Colony—known to commerce as Accra rubber—owed its beginning largely to the efforts of Captain (since Sir) Alfred C. Moloney, who was in her Majesty's service in that colony before becoming governor of Lagos. Still more recently much was done toward stimulating an interest in India rubber by Mr. Alvan Millson, while commissioner for the western district of Lagos, residing at Badagry. In all such cases the facilities offered by Kew have been availed of by the colonial officers, whose duties embrace the study of natural resources.

In 1894 the present governor of Lagos, Sir Gilbert T. Carter, published a notice that he had influenced a party of rubber-gatherers from the Gold Coast to settle in his colony with a view to introducing the industry there. Following this came the announcement that a new rubber-yielding plant had been discovered in Lagos, and that it was a large tree, abundantly distributed in the interior forest. In May, 1895, specimens of the tree and of its product were sent by Mr. Jonathan C. Olubi to Kew, where it was identified as the *Kickxia Africana*. Mr. Olubi wrote: "The 'ire' tree is one of the most beautiful in the forest. From the ground it grows evenly in bulk and smoothly to the height of sixty to seventy feet. The average thickness of the tree is twelve to fourteen inches. In the rainy season, when the trees are full of milk, a tree well tapped is capable of producing from ten to fifteen pounds of India rubber." It is known already that this tree has a wide distribution along the coast; how far inland it abounds remains to be learned. But enough has been seen of the tree to encourage active operations in Lagos, whence the exports for the first half of 1895, according to the collector of customs, were:

MONTHS.	Pounds.	Value.
January	12,131	£1,213 10 3
February	15,888	777. 0.11
March	26,316	1,419. 7. 8
April	39,763	2,078.16. 6
May	216,916	11,700. 0. 7
June	268,619	12,577. 2. 6
Total	588,633	£29,765.18.5

All reports are agreed as to the ease of tapping the trees and coagulating this rubber, while a firm of the standing of Hecht, Levis & Kahn have published a letter upholding the merits of the product. The export value at Lagos, according to the above table, has averaged slightly more than 1*s.* per pound, the range being between 10*d.* and 1*s.* 2*d.*

No longer ago than 1880 the Kew annual report stated that "all the present commercial sources of African caoutchouc belong to the genus *Landolphia*"—climbing shrubs four to six inches in diameter near the ground, but dividing above into numerous branches which support themselves on the neighboring trees. Practically the same report was made in 1885, when one of the Kew *Bulletins* described Accra—Gold Coast—rubber as the produce of the *L. Owariensis*, "probably the best rubber plant in West Africa." But in the same year Mr. Millson discovered that India rubber could be obtained from a certain large spreading tree, often planted for shade in market places, markets, and compounds, belonging to the fig family and called by the natives "abba." This tree was subsequently identified as the *Ficus Vogelii* and has now become an important source of India rubber. As late as November, 1889, however, an official who had been requested to forward a hundred pounds of rubber from the "abba" tree to London reported that he could not obtain more than forty.

The importance of the discovery of rubber trees in Africa, in case their product should meet the wants of manufacturers, can hardly be overestimated. For the rubber-vines, which require for their support trees of large size, there can be no hope of permanency. Wherever forests are cut down, either to supply the demand for lumber or to make room for plantations, the rubber climber must disappear. But trees suited to the soil and climate, and yielding India-rubber freely, are not apt to be lightly destroyed, while in the event of their destruction from any cause they can be replaced by cultivation more readily than trees could be introduced from Brazil or Assam. It is different with the climbers, with which little could be done in the way of plantations in the absence of trees for their support. Sixteen years have seen the English imports alone of West

African rubber grow from 900 tons (of which none came from Gold Coast or Lagos) to a yearly average greater than 3500 tons (including more than 1100 tons from these colonies). There could be no better evidence of the world's appreciation of African rubbers, and there is double cause for congratulation in that the discovery of new sources of supplies should be coupled with the promise of greater permanency than in the case of the plants known hitherto.

T. H. VIDETO.

THE subject of this sketch was born in Wilmot, Annapolis county, N. S. His father was a Baptist minister, who served one of the largest and most influential churches in the province for a period of forty-five years. He early developed a love of study and was afforded every facility for acquiring an education. At the age of seventeen he had mastered the higher mathematics and was well versed in Latin, French, and Greek. At this age his teacher was elected to fill a responsible position in one of the seminaries of New Brunswick and the school committee elected young Videto to the vacancy. Among his pupils at that time was the present attorney-general of Nova Scotia, Hon. J. Wilberforce Longley. After teaching this school for ten years he resigned, intending to complete his education in the United States, whither he came in the spring of 1852. Long continued and close application to study had however so undermined his health, he was advised by physicians to abandon his ardent desires for further schooling. After filling various positions in life, in 1879 he was induced to look into the art of manufacturing light-weight rubber goods. This finally resulted in his taking part in the formation of a new company, not intending, however, to have any active part in the exercise of the art itself. The superintendent of the company (the Globe, afterward changed to Readville Rubber Co.) after about three months' service sickened and died, and Mr. Videto was chosen to take his place. Entering upon his duties without any experience, he at once undertook to thoroughly familiarize himself with the art of proofing textile goods. The difficulties surrounding such an undertaking were great, but he quickly began a line of experiments which eventually brought success. The next few years witnessed the formation of several new rubber companies and as a result there was great competition and lower prices, even though a "rubber combine," controlled the rubber market, sending the price for the crude article above $1 25 per pound. When at length this combine failed and the price dropped lower than ever, it found this company, like most, if not all others, heavily stocked with goods of high-cost production. A favorable opportunity offering, the company sold out and closed up its business.

T. H. VIDETO.

Up to this time there was nothing made for light-weight waterproofs except what was known as "Black Gossamer Cloth." In 1883 English manufacturers produced plain and fancy striped goods by the use of potato starch, giving to the rubber surface a silvery appearance, which through wear would soon become defaced. It was not long before some of these garments made their appearance in this market. This event gave rise to a great and growing demand for ornamented waterproofs, which led Mr. Videto to redouble his energies in the direction of making a fancy stripe that would be permanent.

To add to the interest already excited, about this time Prince & Aldrich (known as the Solarized Rubber Co.) placed upon the market a rubber surfaced garment printed in checks and stripes. The expense attending the operation was however too great and they soon abandoned its manufacture. After long and tedious experiments Mr. Videto succeeded in producing—in a simple and inexpensive way—a rubber surface, striped with rubber, the stripe being applied while the surface was yet moist and tacky. This at once uniting with the proofing body, made a perfect union. The stripe became permanent and would last as long as the wearing surface of the garment itself.

In 1886, shortly after entering the employ of the Goodyear Gossamer Co., Hudson, Mass. (now known as the Apsley Rubber Co.), he brought out this rubber stripe, widely known and extensively made and sold under the name of the "India stripe." He at once applied, in his own name, for patents which were granted, one-half interest in which he sold to Messrs. Apsley & Coffin, and they were issued jointly to him and them. Two of these were for mechanical devices, one on the process, and one for the product, and it is but just to say that, by the use of these patents, coupled with their energy and perseverance, they very soon laid the foundation of their future success.

It is worthy of note that a determined and combined effort was made to prevent Mr. Videto from obtaining any patents on his inventions, which effort succeeded for nearly fifteen months, obliging him to make two trips to Washington to look after his interests. The last time he applied to the commissioner of patents for permission to sit down with the examiner and go over all the patents which had been cited against his inventions. He succeeded in showing him they were inapplicable and the examiner becoming fully satisfied he was entitled to protection, they were forthwith granted.

The strain and anxiety attending such a long period of waiting and work proved too great, and shortly after he was stricken down with severe nervous prostration from which he suffered

for years. After weeks of suffering and partial convalescence he attempted to resume his duties as superintendent but finally, acting upon the advice of his physician, he resigned and sought further rest.

His next engagement was with the Gossamer Rubber Clothing Co.—the pioneer in the business. Still only partially recovered in health he, with the aid of his son, who was already in their employ, at once began work, making improvements, and practically reconstructed the interior of the plant by introducing new and improved methods and machinery. Under his management the "old house" gradually regained its former prestige and took its place for years among those noted for the excellency of their productions, and as a result of his labors for and with them, the company offered and would gladly have kept him in their employ as long as he desired to stay. In January last the senior partner, Mr. Ira M. Conant, died. Some two or three months after, the Conant Rubber Co. engaged the services of his son, N. C. Videto. Father and son had been together for many years and had long ago agreed they would keep together,—their mutual interests rendering a separation undesirable. About two months after his son left, therefore, Mr. Videto tendered his resignation and engaged with his present employers.

Work on the new plant under the direction of his son, who is a mechanical genius, was already begun, and at its completion Mr. Videto resumed the production of the same class of goods as formerly. As was to be expected,—with a new factory, planned, built, and equipped with all modern improvements, with much of the machinery designed and built expressly for this company, he has been and is enabled to attain to even better results than ever before, as is evidenced by the rapidly growing trade of the Conant Rubber Company.

The inventions already cited were not Mr. Videto's only ones. He invented a new presser-bar, used in the cutting of veneers; was also joint inventor of the "pressed point peg," and has lately invented a device for sharpening peg wood strips (used in pegging machines) simultaneously with their being cut or unwound from the log. He and his son have also a new machine, for which the necessary papers are already prepared, for making various designs upon a "tacky rubber surface" without the aid of a printing press, and when a demand again arises for ornamented rubber surface garments, he will be ready to supply it.

Mr. Videto has made a critical study of the progress and development of the art of proofing textile goods for the past fifty years or more, both in England, France and America, and has been examined upon the witness stand on about forty patents connected, or sought to be connected with his own inventions, and acquitted himself, in his answers and knowledge, in such a manner as to win for him the commendation of the opposing counsel.

NOT A TRUST BUT A SELLING COMPANY.

A NUMBER of druggists' papers are becoming a trifle hysterical over the rumor that the leading manufacturers of India-rubber porous plasters in the United States are planning some sort of consolidation. Of course the instant anything of this kind is even suggested the suspicious scent a trust. As a matter of fact, as far as can be learned, the plan is simply to form a central selling company which will handle the out-put of all the factories. This company will not acquire the plants of the various factories, but will be simply a large commission house selling their goods. The plan is not only an exceedingly practical one, but one that can in no way conflict with any of the wise or unwise legislation that has been aimed at combines and trusts.

RUBBER SHOES SIXTY YEARS AGO.*

TO make a satisfactory purchase of a pair of rubber shoes, sixty or more years ago, was an undertaking requiring the accredited keenness of a "Philadelphia lawyer."

Boston, Mass., was then headquarters of the rubber trade, the largest importers being found there, where beside supplying the regular trade, the commission merchants held rubber auctions at stated seasons.

Notices sent abroad secured a full attendance of boot and shoe dealers from New York, Philadelphia, Baltimore and all around, for "runners" were not thought of in those days of slow coaches.

Most of the rubber, and the best, came then, as now, from Pará, South America, or along the Amazon river, where natives procured it by tapping the trees. Clay and wooden lasts of various sizes were dipped in the cream-like liquid, the coating being dried by a dense smoke exactly as is done to-day.

When the several dippings were over, the shoes were stamped on the toes in fancy designs, more or less elaborate, taken off the lasts and stuffed full of rice hulls and hay; the tops were then sewed together with twine, or coarse thread.

Two of about the same size were tied together, and these ill-assorted pairs were packed in wooden boxes of all sizes and shapes, mostly sugar boxes, and shipped to foreign ports.

A boot and shoe dealer receiving a box would immediately consign it to the cellar of his store, where, on being opened, the stitches would be cut, the hulls and grass emptied out, together with a few scorpions and other live stock such as frequently took passage in the shoes.

The shoes were then turned wrong side out and after a thorough washing inside and out to free them of all adhering clay and dirt, were left to dry.

Then followed the tedious process of trimming and shaping them. Each shoe was turned over a wooden last—the one that seemed to be about the right size. If it was not sufficiently large another would take its place. If too large, the shoe was heated and by extra exertion was often made to stretch to the required capacity. Then with sharp scissors the edge was neatly trimmed and after being sponged with Japan blacking, the shoe was ready for sale. Only about enough for one or two days' sales were made ready at one time, the boys working evenings preparing them.

A customer desiring to purchase a pair of No. 4's, was shown a pair that were stretched over that size of last. They may have had originally—the one a round toe, the other a pointed toe; one may have had a thin, the other a thick top—but so long as they could be made to cover a certain last that fixed the size.

If one of them shrunk on being removed from the last it was heated and put on again, and possibly heated a trifle before trying it over a customer's boot.

It was a common occurrence to have a customer return with a shoe, or a pair of them, that drew the feet so badly they proved worthless to him or her. If the shoes had been worn they were generally taken back in exchange for a less expensive pair, and on being heated some, the indentations were easily worked out so the pair was just as good as new.

Repairing and resoling rubbers was a very nice operation, requiring great skill and cleverness.

The shoe was again put on a last, when the sole or part to be mended was shaved with a sharp knife until it was all fresh and adhesive, and then a similarly prepared piece of rubber

* By C. A. Lynde, in the Christmas *Boot and Shoe Recorder*.

was put over it, the fresh surfaces pounded together and then trimmed neatly around. The shoes being soft and easily injured, had to be frequently mended.

They tore readily; stones and sticks penetrated the soles, heat softened them, cold stiffened them, and the sun discolored them; but notwithstanding all that, every woman and child, and many a man was obliged to wear them through the muddy, sloshy and snowy seasons, so the sales were proportionally great.

Rubber overshoes sold at wholesale from 25 cents a pair upward, retailing from 50 cents to $1.25 a pair, according to their evenness of texture, their shapeliness and the elaborateness of their stamping; for the latter was a point of beauty not to be overlooked.

The dealer himself could not be sure of his goods and the purchaser could only be guided by the dealer, as he or she knew nothing of the extra stretchings, or of the mysteries of the trade, usually carried on below stairs by the apprentices, or boys, who were early taught to stretch their conscience with their goods.

Here and there may occasionally be found a man whose hand even now bears the marks of trimmings done on "gums" during the days of his youth, but there are comparatively few people living who remember the old-time rubber shoes, with their stamped toes—which were considered a valuable improvement over wool socks and Indian moccasins.

TAPPING RUBBER-TREES IN ASSAM.

MR. D. P. COPELAND, deputy conservator of forests, Assam, gives the following report on the methods of tapping rubber trees adopted in Assam, and of collecting and preparing the rubber for the market:

The Mode of Extracting Rubber as Practiced by Mr. Martin of Tezpur.—Small funnel-shaped cane or bamboo baskets were prepared and coated with caoutchouc, after which the baskets were attached to the tree under the incision. The incision or cut was made diagonally and elliptical in shape, being about 3 inches across the centre and from 6 inches to a foot in length. Sometimes the cuts were made like an arrow head, thus, V, the baskets being nailed with a bamboo nail just below the point. These baskets, when full, were emptied into cane receptacles coated with caoutchouc, and thus conveyed to the factory where the milk was poured into large wooden boxes or bins 6 feet square, and partly filled with water, the caoutchouc after a time floating on the top. The caoutchouc (being still fluid) was then taken out and boiled over a slow fire on iron pans, which are still lying in Tezpur, 4 to 6 feet in diameter and 2 to 2½ feet deep, two parts of water being added to the caoutchouc, and the whole stirred constantly. As soon as the rubber coagulated into a mass, it was taken out with iron forks and pressed, and again boiled and pressed, and then dried in the sun, and finally washed over with lime. The rubber thus prepared was shipped direct to the London market.

The Assamese and Nepalese mode of extracting rubber is as follows: The men begin from the top of the tree working downwards, making incision with their *daos* or *khukris* from 6 inches to a foot long and about 4 inches wide along the stem of the tree. The milk collects in these cuts and also runs down the stems, some of the overflow falling to the ground. After four or five days the rubber thus cut is dry, and can be pulled up very easily; it is then either wound round into balls or left loose. The ball rubber fetches a smaller price than the loose rubber, as very often a stone or other impurity is hidden inside the ball to add to the weight. The tappers try and get rid of their rubber as soon after collecting as possible, as it loses in weight by drying. The traders get over this difficulty by keeping it in water in barrels and wetting it well before shipping. The rubber undergoes no preparation in Assam, and is shipped to the Calcutta market in the same state as it is received from the forests, except, of course, the wetting with water already mentioned. I am informed that a machine has been put up at Margherita in the Lakhimpur division for cleaning rubber before shipping; but, as I have only heard of the process, I cannot describe it. The most favorable time for tapping is from November till April, the dry-weather months. During the rainy season, from May till October, the richness of the juice diminishes. From that time till January the rain diminishes, and the milk increases in richness.

While on the subject, I beg to describe a third mode of tapping rubber which has been the cause of the total destruction of our indigenous rubber forests in Assam; this system crept in gradually, and not having been suppressed with a strong hand, has left us ruined and killed out the rubber trees. I mean root-tapping. The Assamese, being too lazy to climb, were probably the first to find out that by tapping or cutting the root of the tree along the ground, much more rubber could be got and with far less trouble. I maintain, and can prove it, that stem-tapping, however severe it may be, unless it amounts to downright girdling the stem, cannot kill out or permanently ruin the tree; but root tapping, as practiced in Assam, kills out the tree at once. The roots of the tree are followed up for 40 or 50 feet along the ground, and every yard or so a hole is dug, and the root is cut clean through with an axe, a few large leaves being placed over the hole to prevent rain or dew wetting the rubber; a week later the rubber is removed from the hole, being found in slabs from half a pound to six pounds in weight. Stem-tapping cannot be done during the wet weather, as the rain would wash off the caoutchouc from the cuts; but root tapping with a little care, provided the trees are growing above flood-level, can be done the whole year round.—*Madras Mail.*

THE AMAZON TELEGRAPH CO., LIMITED.

AT the first ordinary meeting of this company, held in London on October 31, it was reported that the entire capital of £250,000 had been allotted, in 25,000 shares of £10 each. There had been applications for 30,250 shares. All the calls had been paid, amounting now to £5 10s. per share, with the exception of 914 shares fully paid. On that date 1119 miles of cable had been completed by the manufacturers, Siemens Brothers & Co. A Stock Exchange quotation had been applied for. Under the terms of the organization the company could not pay dividends out of capital during construction, but must wait until the earnings permitted the payment of dividends. The Brazilian subsidy would become payable as soon as the company could report the lines laid and open for business, but it would be payable for the whole time elapsed since the signing of the contract with the government.

A NEW use for rubber mats has been discovered by a German physician of prominence. He is the originator of the theory that almost any kind of physical difficulty can be cured by walking or running—not straight ahead, but in various eccentric figures that he designs. For example for one who is exceedingly stout he marks on a large rubber mat, a figure in the form of a star and the patient hurries up and down its lines. A number of days after using this figure a different one will be designed.

THE RULE OF THUMB IN THE RUBBER FACTORY.

By Stephen P. Sharples, S. B.

A FEW days ago some one remarked to me that he supposed I was often called upon to investigate new processes for use in the arts. I replied, "Not very often, but very frequently I attended their funerals." Most manufacturers are perfectly ready to try any new thing when it is brought to their notice by a plausible inventor. Few are willing to spend the time and money to make a thorough investigation before trying the process, wasting thousands of dollars in worthless experimenting rather than investing a few hundreds in obtaining competent advice. Manufacturers are, except in rare instances, at the mercy of their employees. A wise man employs every check possible in his counting room to insure the honesty of his clerks. But in the manufactory he often has only a slight idea of what is being done. He is afraid, if he consults some outsider, that his secrets may be made known to his rivals. So he goes along in the old rut, working by rule of thumb. When he finds that a competitor is producing a different or a cheaper grade of goods he takes a sample to his foreman, who proceeds to guess what the other is doing, and, failing in that, tries to hire a man from the rival establishment. The open and above-board course of taking the goods to a chemist who has made a study of such problems rarely occurs to him. A chemist cannot solve all the problems that arise in the rubber factory, but he can solve many of them, and with certainty if he has a proper knowledge of India-rubber. To give an instance to the point. A year or two ago I was handed a substance which was said to be a perfect substitute for litharge in vulcanizing rubber, that is, it could be used weight for weight to replace litharge in the goods. On examination it was found to be clay, with less than forty per cent. of litharge mixed with it. Of course, its only value was the litharge, and the manufacturer who was buying it was paying about four cents a pound for clay which was worth less than half a cent a pound. Nor was this the worst of the matter; the goods in which it was used, being improperly cured, were all returned to the factory as damaged. An examination of the substance by a competent chemist before instead of after the experiment, might have saved many dollars to the manufacturer. In mechanical goods particularly the manufacturer is often called upon to imitate certain goods that have proved satisfactory to the trade. He does this generally by referring to his note-book and trying the mixture that he thinks will come nearest to the sample. It is hit or miss, and he may often spend weeks before he happens upon the right mixture. I am not prepared to say that the chemist can in every case tell exactly how a given sample was compounded, but, so far as the mineral ingredients are concerned, he can give exact information. He can generally tell whether new or reclaimed rubber has been used in the manufacture of the article, and whether this rubber has been reclaimed by mechanical or chemical means. He can tell the amount of sulphur used, and the nature of the pigments employed. He can also determine whether oil substitutes have been employed, and whether mineral oil forms part of the compound. The chemist can generally give the exact amount of each ingredient used, so that with very few trials the original can be exactly imitated.

A few months ago I was shown the analysis of a sample of reclaimed rubber which had been made by a competent chemist. The analysis was correct as far as it went, but he had entirely failed to interpret his results. As he interpreted his work, it entirely misrepresented the article. He had determined the sulphur in the sample correctly, but he had called it all free sulphur, overlooking the fact that nine-tenths of it was combined with lime in the form of sulphate of lime. In another case a manufacturer in England condemned a lot of reclaimed rubber as containing a considerable excess of sulphur. If he had taken the trouble to examine the bloom that was troubling him, he would have found that it was sulphate of lime. The explanation of the bloom was very easy in this case. Reclaimed rubber contains, when put on the market, one or two per cent. of water, this water being, of course, in chemically reclaimed rubber, a saturated solution of sulphate of lime. A large portion of this moisture may be removed by properly seasoning the rubber before it is used; yet it is very generally used without seasoning. When it is placed in the heater this water gradually works its way to the surface and brings a little sulphate of lime with it. The sulphate of lime, not being volatile, is deposited on the surface of the goods in a very thin layer, forming the so-called bloom. Reclaimed rubber should be seasoned in the same manner as new rubber; indeed, it often stands in even greater need of such treatment. The long exposure to steam in the devulcanizing process saturates it with moisture. The maker finds it desirable to leave a slight amount of this water in the goods, as it renders them softer and easier to work. He cannot, as a rule, afford to dry it, as he would in this case be compelled to keep it in lofts for weeks, and he would not be able to sell it for any more than the ordinary commercial article. I have seen rubber that was rejected by a manufacturer who claimed that it was acid, as it blistered when he attempted to use it. A slight chemical examination showed that the claim of acidity was absurd, as it contained nearly twenty per cent. of carbonate of lime. Nor is there the slightest difficulty in distinguishing chemically from mechanically reclaimed rubber, either by the microscope or chemical means.

There are still many avenues of investigation open to the intelligent manufacturer, in which he may be greatly assisted by the chemist. Some problems, to be sure, he is able to settle for himself. He knows pretty well by repeated trials what is the best temperature for vulcanizing certain lines of goods. But how many manufacturers know just what are the best compounds to use in certain

cases? Most of the receipts in use have been handed down from the last generation, and they are, many of them, based on the principles which were in vogue in medicine when they were devised. That is to put half a dozen ingredients together, and if one does not cure another may. It seems to me that in this respect rubber manufacture is far behind most other of the chemical manufacturing processes. The dye works long ago called the most skillful chemists to their assistance. The iron and steel works which twenty years ago were run on the same plan as the rubber works are to day, now employ skilled chemists in their every-day work. The fertilizer men have an army of chemists working for them. Even many of the great railroad companies employ trained chemists.

CONSIDERATIONS IN CATALOGUE-MAKING.

IF all the trade catalogues in existence, devoted entirely or in part to manufactures of India-rubber and Gutta-percha, could be brought together, the wonder would be that enough paper-mills could have been found to supply the printing material. But doubtless it would also occur to a few minds that some of this paper had been wasted through injudicious or mistaken ideas in the preparation of the catalogues, whereby they had failed of any good results. Seeing that so many rubber catalogues have been prepared, or are yet likely to be, where should a few thoughts on the proper making of a trade catalogue find place more properly than in the pages of a journal which is read by the rubber-manufacturers? It is with this idea in mind that the subjoined considerations have been jotted down for INDIA RUBBER WORLD readers.

I.

THE main object of a trade catalogue is to give the best possible idea of the goods advertised by it. It is not to amuse people—for there are comic papers enough—or to introduce startling effects in printing and engraving. The right sort of catalogue has little room in it for fine writing for the sake of show, but the best of English is not too good for explaining the merits of anything really worth buying. Brevity and conciseness should be studied. A small catalogue is better than a large one, other things being equal, and the best of all is the one that most promptly makes its business known. Those whose patronage is most desirable are busy people—who are pressed for time and who may care only for business in business hours.

II.

IT should first be decided what classes of people a catalogue is intended for, that they may be kept in mind in compiling it. For example, a catalogue for wholesalers or jobbers may be less ornate than one for the retail trade—the general public. The former are concerned chiefly to know what is for sale and at what price. But the latter, and especially women and young people, are impressed by bright and artistic effects, so that it may pay to make catalogues for them as attractive as is possible within the appropriation for the purpose.

III.

A CATALOGUE ought to be a work of constant growth. The pages of a new catalogue might be pasted into a blank book, leaving ample margins, and every one connected with the house encouraged to contribute ideas on its revision until the time for a new edition. A catalogue thus revised would represent the experience of the house for a year or for several years, and should be more free from errors or omissions than if the whole work had been delayed until the last moment. But the final arrangement ought to be that of one responsible person—the head of the catalogue department, so to speak.

IV.

LIKE other salesmen, catalogues should be of good address. Cheap printing on poor paper will discredit goods with all people of taste. Whoever is competent to prepare a catalogue can easily master enough printing-office secrets to be able to judge of materials and workmanship. But one who feels at a loss in such matter might collect good-looking specimens of printing done for other houses, and engage a printer to do similar work, on condition of paying for nothing else. Special paper is needed for special kinds of engraving, and much depends upon the ink. If economy in cost be an object, it is well to have in mind an estimate from reputable printers while preparing the catalogue. Better a small one, attractively gotten up, than one twice as large but slovenly in appearance.

V.

PICTURES are the strongest feature of a catalogue when the articles described are such that the pictures will need little explanation. But only good pictures are worth the cost. Their purpose should be to illustrate as nearly as possible the articles advertised. It does not pay to make engravings more attractive than the goods, Otherwise, the buyer is liable to compare the goods with the pictures, to the disadvantage of the former. Photographs more correctly represent most lines of goods than any drawing could do, and "half-tone" engravings are unsurpassed for illustrating catalogues, but they must be well made, and printed on suitable paper by men who know how.

VI.

THE date of a catalogue is of consequence. An up to-date merchant does not like to handle a catalogue dated back of the current year. If the date of the year after can be used, the catalogue will be "new" longer. Unless annual issues are intended, it may be better not to print any date—prominently, at least. Now and then some merchant may feel suspicious on receiving an undated catalogue, or uncertain whether it is new, but this is not so bad for the manufacturer as a plain date reminding everybody, after awhile, that a catalogue is two or three years old. It is a good plan to distinguish occasional additions of a catalogue by numbers rather than dates, sending out with each a suggestion to throw away all previous issues.

VII.

FREQUENT editions are a good thing. They remind merchants that they have not been forgotten, and that their patronage is appreciated. There is no one, by the way, who is indifferent to appreciation. They also keep a manufacturer from being forgotten or overlooked. A new catalogue now and then may prevent orders from being lost to an energetic competitor. Of course, large and expensive catalogues cannot be printed simply for reminders, but in the case of small catalogues, in lines of goods in special demand at certain times, it is better to get out a new edition with each return of the season.

VIII.

ODDITIES in size and shape had better be avoided in making a catalogue. It lowers the dignity of a business house to bid for attention by such cheap tricks as eccentricity in printing. But there is a more practical objection. A catalogue should be designed for preservation by the recipient, and one of peculiar size or shape may prove troublesome to handle and, therefore,

be speedily thrown away. If a merchant already has some catalogues relating to his line of business, he is more apt to preserve an additional catalogue in that line if it be of the same or similar dimensions. For this reason the more important makers of catalogues ought to lend their aid to bringing about greater uniformity in sizes.

IX.

OFTEN a catalogue can be rendered more useful for reference by the addition of some facts other than descriptions and prices of goods. Whatever tends to the preservation of a trade-list is likely in the end to result in benefits to the house issuing it, in the way of more orders. It is a good thing, then, if such a catalogue can be made that it will be opened frequently for a figure to save a computation, for a formula or recipe, or some other item helpful in the business of its recipient. But such matter should be carefully chosen. If original and likely to be of permanent value, other people can be prevented from adopting it by getting it copyrighted at Washington.

C. D. FROST.

RUBBER DEPARTMENTS IN PENCIL FACTORIES.

THE manufacture of pencil-tips of rubber, and of erasers, is a business that has grown to very respectable proportions within the past ten years. It is quite the thing for the great pencil-factories to have their own rubber plant, and to turn out general and special styles of erasers and tips by the ton. Take for example the well equipped little rubber-factory of the Eagle Pencil Co., New York. It was started twelve years ago, and has gradually grown until forty-seven workers are now employed.

Prior to 1883 the company bought their rubber in sheets ready for cutting into erasers. At one time their orders were filled by the Woonsocket Rubber Co. But the increase of their business and their policy of having every detail of the industry under their direct control led to the establishment of their own rubber plant. One result has been a series of compounds more satisfactory than were formerly obtainable. Experiments have been made by them with all kinds of rubber, but without satisfactory results, except from the best Pará. "We tried some Africans at one time," said an official of the company, "but the stuff smelled so badly that it was useless. Of course a bad-smelling rubber cannot be used for erasers or pencil-tips."

The foreman of the Eagle company's rubber plant is Horatio Wilson. The superintendent of the whole plant, Samuel Kraus, who is also vice-president of the company, has also been much interested in the development of the rubber department.

* * *

THE company above named, by the way, are not the only pencil manufacturers having their own rubber plant. The Joseph Dixon Crucible Co. (Jersey City, N. J.), who are large producers of lead-pencils, for many years bought all of their tips and erasers from the Hardman Bros., the present owners of the Riverside Rubber Works, Belleville, N. J. About two years ago they decided to make their own rubber goods, so they bought the machinery and knowledge of the Hardmans, who in the friendliest way in the world did everything in their power to make the new plant a success, and were eminently successful. The Joseph Dixon Co. have a variety of patented types of erasers and tips, and several erasive compounds that are of considerable value.

* * *

THE two important concerns of Eberhard Faber and A. W. Faber (New York) have their pencil tips and erasers made in a rubber factory at Newark, N. J., owned and operated by Christopher Roberts. This factory is one of the oldest in the business, and is noted for its fine goods, and its careful attention to the details of manufacture. Not only are pencil tips and erasers made here but a fine quality of stationers bands are also manufactured. From here is also exported rubber in sheet form for erasers to the German house of A. W. Faber.

* * *

ANOTHER factory that devotes its entire force to the making of pencil goods of rubber is the Esser Rubber Co., of Newark, N. J., whose principal trade is with the American Lead Pencil Co. This concern was started some four years ago by H. A. Yatman, formerly with the Riverside Rubber Works. Mr. Yatman has brought out a number of novelties in his line that have proved quite popular. His factory at last accounts was running night and day on erasers, tips and metal parts for pencils.

* * *

ERASERS separate from pencils continue in growing demand. The typewriter brought with it the need for a rubber for erasing ink, and the number required for this trade has been very great. The sale of erasers for school use has been referred to lately in THE INDIA RUBBER WORLD as having been stimulated largely by the policy of equipping pupils' desks at the public cost, rubber being considered an essential item. But the trade in erasers has not diminished the call for rubber-tipped pencils. It is true that the demand for school use is mainly for pencils without tips, but the most popular pencils for commercial purposes are those provided with rubber. A manufacturer stated that, of a new pencil brought out by his house, a thousand gross has been sold with rubber tips for every ten gross sold without them.

There are changes in fashions in pencil tips; at least, new things are brought out in the attempt to overcome objections made by pencil-users. Two essentials are (1) that the rubber used shall be really a good eraser and not blacken the paper, and (2) that it shall adhere to the pencil, or not roll out of its socket. The old-time thimble or cap on the end of a pencil is now seldom called for in the United States, though it meets a certain export demand. It is liable to come off easily. The rubber inserted in the end of the cedar also comes out readily. But one concern has had patented an eraser in the form of a rubber disk surrounding the end of the pencil and held in place by metallic washers, which seems likely to last as long as any of the pencil is left. A popular rubber tip is mounted in a nickel tube which slips over the end of a pencil, and can be used repeatedly as pencils wear out. A score of styles of rubber pencil-tips can be seen in a well-equipped stationer's, each of them now or at some time the subject of a patent.

Among the requirements of a good rubber eraser, according to one manufacturer, are that it "will readily erase fine or coarse lines, without leaving any marks; will withstand any climatic influences; will preserve its elasticity; and will remain pliable and soft in use."

"RUBBER Tires on Milk Wagons" is part of the headline over an article in the New York *Herald* on the noises on city streets which are such a continual nuisance, by night and by day. It is asserted that sound sleep is something unknown to many people, in consequence of noises which might easily be prevented. "The sanitary code," says the writer, "does not yet require heavy wagons and early morning milk-carts to be equipped with rubber tires, but the day will come, it is said."

BRIEF ABSTRACTS OF RECENT RUBBER PATENTS.

AMONG recent patents issued by the United States Patent Office, embodying applications of India rubber or Gutta-percha to a greater or less extent, have been the following. It is not practicable here to do more than to note the use of rubber in each case, with sufficient detail to enable those who are interested to decide whether or not to look into any particular patent more fully:

TIRES.

No. 549,173.—Pneumatic Tire. Hugh L. Warner, Covington, Ky., assignor of one-half to J. E. Poorman, Cincinnati, Ohio.

The combination with a rim, of an outer tube having its longitudinal edges arranged on the rim and provided at intervals with eyelets, and a series of transverse plates arranged on the rim and provided at their inner faces with fastening devices for engaging the rim and having at their outer faces studs engaging the eyelets.

No. 549,581.—Rim and Tire for Wheels. Frederick D. Owen, Washington, D. C.

The combination with a wheel rim having a tire groove, and a tire the outer part of which is provided at its edges with inflatable lobes having outwardly extending ribs or projections, of a mechanical fastening consisting of two metallic bands seated in the groove of the rim, the bands being of less diameter than the greatest diameter of the rim and the edges thereof resting in contact with the tire groove.

No. 549,611.—Pneumatic Tire for Vehicles. James B. Rathbun, New York, N. Y.

The combination of a concave rim having a seat, a groove and a flange, along the inner edge of the groove, with an elastic tire having beaded and reinforced edges, all being so constructed that the diameter of the beads is less than the diameter of the flange.

No. 549,706.—Pneumatic Tire. Merritt C. Conway, Syracuse, N. Y.

In combination with the pneumatic tube, the wheel-rim having a groove formed with undercut sides and a jacket having overlapping marginal portions and formed with ribs and with a groove in the exterior of one of the marginal portions, a tongue on the other marginal portion and a rib on the edge of the tongue entering the groove.

No. 550,414.—Tire for Vehicle-Wheels. George H. Mackay, Salem, N. H., assignor of one-half to Charles F. Kimball and Fred C. Buxton, same place.

The combination of a concavo-convex wheel-rim having a central longitudinal channel, a rubber tube seating on the rim and divided along the inner side and formed with flanges at opposite sides of the division, the flanges occupying the channel of the rim, fastenings passed through the channel and the flanges, an inner tube of fibrous material interlocked with the rubber tube, and a core in the inner tube.

No. 550,560.—Tire-Repairing Tool. Frederick Myers, New York, N. Y., assignor, by direct and mesne assignments, of one-fourth to Frederick P. Clement, Rutland, Vt., and William A. Gray, Westborough, Mass.

A tire repairing tool comprising a suitable head having a set of separable jaws together forming an expansible tube, the jaws tapering to bring the tube to a point and being formed with well defined enlargements back of the point to provide shoulders to bear against the inner side of the tire; means for expanding the tube; and means for inserting the plug.

No. 549,603.—Inflation-Valve for Pneumatic Tires. Thomas B. Jeffery, Chicago, Ill.

In combination with the rim and the inflatable core, a nozzle provided with a nut to clamp it to the core and having its neck which penetrates the rim, continuously threaded, and provided with a device for clamping it to the rim located exteriorly to the latter, whereby the nut which clamps the core may be as small as that which clamps the rim, the neck having its thread cut away outside the rim and adjacent thereto to form a flat seat on the side of the neck, and a latch pivoted to the rim and adapted to engage the flat seat to prevent the rotation of the nozzle in the rim.

DRUGGISTS' SUNDRIES.

No. 549,288.—Atomizer. Anton C. Eggers, Brooklyn, N. Y.

The combination of a vessel for containing a liquid, a cap applied to the neck of the vessel, an air-supply pipe leading into one side of the cap, and a combined air, suction and waste-return tube extending through the cap into the vessel, terminating near the bottom of the vessel and provided with separate air, suction and return-channels, atomizing devices at the outer ends of the air and suction-channels, and a large nozzle or hood extending around the atomizing devices and applied to the outer end of the combined tube at some distance above the cap.

No. 549,394.—Nursing-Bottle Protector. Frank G. Presnell, Chillicothe, Ohio.

A protector for nursing and other bottles, consisting of a sleeve constructed of rubber and having a tapering shape, the sleeve being provided with horizontal corrugations and a bead at its widest end, the sleeve being also provided with vent openings in the exterior channeled portions of the corrugated surface.

No. 549,678.—Bottle Stopper. Joseph A. Miller, Providence, R. I.

A bottle stopper consisting of a tubular neck provided at one end with an elastic bulb having a lateral outlet, and a valve, the stem of which is secured to the elastic bulb, constructed to close the open end of the tubular neck.

No. 550,238.—Surgical Instrument. Horace R. Allen, Jr., Indianapolis, Ind.

In an instrument for treating the male urethra, a tube carrying a pair of flexible bulbs held a suitable distance apart and adapted to be inserted into the urethra, means for inflating the bulbs so as to connect the walls of the urethra and form a closure that will prevent the passage of liquid between the bulbs and the walls, means for introducing fluid into the space between the bulbs, consisting of a supply and a discharge tube communicating with the space and the tubes having stop cocks externally placed.

MECHANICAL GOODS.

No. 549,359.—Lawn-Sprinkler. William K. Hawks, Philadelphia, Pa.

A sprinkling nozzle provided with the usual perforations and having the general outline of a frustrated cone, in combination with a conical deflector, the flaring sides of which lie in the path of the water projected through the perforations of the nozzle, an externally threaded nipple adapted to engage the threads of an orifice in the deflector whereby the latter is attached and detached.

No. 549,510.—Hose-Coupling. Cassius L. Hall, Ypsilanti, Mich. Assignor to the Clayton & Lambert Manufacturing Company, same place.

In a coupling, the combination with the externally threaded neck and swivel neck having the external flange, of the fly nut for uniting the two having the internally threaded aperture, the enlarged annular recess with the anvil or shoulder extending inwardly beyond the line of the screw-threaded aperture and the recess in the edge of the anvil or shoulder for the reception of the external flange on the swivel neck and an elastic gasket held in the annular recess and having its internal diameter corresponding approximately to the internal diameter of the necks.

No. 549,702.—Basin-Plug. Henry O. Canfield, Bridgeport, Conn.

A basin plug consisting of a body and ear molded in solid rubber, the ear having a hole through it to receive a ring and the ear and body having molded within them a metallic loop provided with holding lugs molded in the body so that it is rendered impossible to tear out the ring, or to detach the ear from the body.

No. 549,774.—Hose Clamp and Patch. Aaron H. Forst, Louisville, Ky., assignor of one-half to George W. Hess, same place.

In a hose clamp, the combination, with the semi circular parts, having lugs of the hinged bar, a circular cam pivoted eccentrically to the bar, and provided with a stop that comes in contact with the bar, and a lever arm which is detachably connected with the cam.

No. 550,517.—Belt for Ore-Concentrators. William J. Loring, Angel's Camp, Cal.

A belt composed of alternating layers of rubber and of textile material cut on the bias, and having a solid rubber edge flange, one of the layers of textile material being extended sidewise and embedded in the flange.

COMPOUNDS.

No. 549,856.—Composition of Matter for Compressed or Molded Articles. Rufus N. Pratt, Hartford, Conn., and Henry W. Johns, New York, N. Y.

The within described composition of matter consisting of a fibrous mineral insulator, a cementing insulating substance such as rubber and a lubricator consisting of an insulating material.

SPORTING GOODS.

No. 549,923.—Inflatable Boat. Hiram D. Layman, Little Rock, Ark.

In a boat, a tubular inflatable oval shaped body provided with a water tight bottom piece having depending leggins or boots and a conical water-tight break-water cape joined at its wide lower end to the outer upper edges of the float body and provided at its upper end with shoulder straps and an encircling body strap below the shoulder straps.

BOOTS AND SHOES.

No. 550,035.—Last for Boots and Shoes. Henry T. Brockwell, London, England.

In a pneumatic last or tree for boots and shoes, the combination with the elastic sock or air vessel, of a metal cap adapted to pass down into and to fit the interior of the upper part of the boot or shoe, and approximating in shape thereto, the cap having an aperture for the passage of a valved air tube forming part of the elastic sock, and through which tube inflation is effected.

SADDLERY.

No. 550 330.—Pneumatic Gig-Pad. Edward Plumhoff, Nashville, Ill.

A harness saddle pad composed of a top piece of heavy and stout material concaved between its edges and having transverse grooves in its lower side at a middle point and near its ends, metal plates fitted in the grooves, attaching straps secured to the end metal plates through the top piece, a centrally disposed strap having an opening at one end and a transverse slot at the opposite end, and secured to the middle metal plate, a fulled lining secured at its edges to the edge portion of the top piece and to the middle thereof, and inflatable sacks disposed in the space formed between the top piece and the fulled lining.

MISCELLANEOUS.

No. 549,093.—Washing Machine. Nathan S. Althouse, Reading, Pa.

In a washing machine, the combination with the tub, the stationary arm, secured to the bottom thereof and formed with lateral flanges having oppositely inclined under faces, and the rotative spider, of the normally stationary, open rubber cylinder having inwardly projecting lugs at the bottom, the rubber cylinder being rotative to bring the lugs into and out of locking-engagement with the flanges.

No. 549,511.—Horseshoe-Pad. Michel Hallanan, New York, N. Y.

A horse shoe pad having an elastic block, the sides of which at the heels project laterally to the side edges of the pad, the side extensions terminating rearwardly of the nail holes and formed with squared rabbeted ends.

No. 550,226.—Life-Preserver. Hiram D. Layman, Little Rock, Ark.

In a life preserver, a flexible water-tight pantaloons suit, a continuous tubular inflatable float body encircling the upper part of the suit and disposed at an oblique angle to the length of the suit, and positive fastening means for connecting the float body with the pantaloons suit and maintaining the same relatively so disposed to each other.

DESIGNS.

Nos. 21,876, 21,877, 21,878, 21,879, for Pneumatic Bicycle Saddles. William I. Bunker, La Grange, Ill. Filed Oct. 11, 1895. Term of patents 7 years.

A RUBBER FACTORY FOR PORTLAND, OREGON.

MR. VIRGIL S. SMITH in a long letter to the *Oregonian* says: Portland should have a manufactory of rubber goods, because it is easily the center of distribution for the great Northwest. The necessity for waterproof clothing will never cease because of the excessive humidity of the climate.

Why should not Portland capitalists have a share in that great industry; either in the gathering and transportation of the crude rubber, or in the manufacture of the goods, or both?

With the opening of the Nicaragua canal, northern South America will be nearly as close to Portland as to New York. The Amazon and Orinoco, the greatest spouts for ejecting rubber, so to speak, in the world, will then be within short sailing distance from Portland. By bringing the rubber direct from where it is produced, will certainly save the great item of overland transportation of the manufactured goods.

There is no reason why the northwest should not become a manufacturing community. China, Japan, and India, with their teeming populations, lie just across the water, and time is steadily drawing the Eastern and Western peoples closer and closer together. Men are fast learning that nations are interdependent, and that a proper division of labor produces the nearest perfect civilization.

THE extent of the India-rubber plantations in Ceylon at the end of August, 1895, was 634 acres, according to the Colombo *Observer*. The editor adds that "a considerable advance has been made and interest taken in the culture by planters in several districts."

* * *

A TABLE of the proposed freight charges on the Congo railway, when it shall have been completed, includes the item of $83 per ton (of 1000 kilograms) on India-rubber, or about 6¾ cents per pound. The present cost of the portage of rubber around the cataracts of the Congo is not stated, but a recent estimate of conveying merchandise upstream at this place is about $139 per ton.

* * *

RUBBER and wood work better together than rubber and metal under the conditions which apply to the brake of a bicycle. A block of close-grained oak cut to about the size of an ordinary metal spoon-brake is quite as effective, and less injurious than metal, or even rubber, because wood is a non-conductor. We have lately been using a brake made out of a piece of oak carefully smoothed, and made to a slightly larger radius than the tire, and the brake has given us every satisfaction.—*Irish Cyclist.*

DEATH OF EDWARD SIMPSON.

THE senior member of the firm of Simpson & Beers, brokers in India-rubber and commercial paper, died on December 17 at his home, No. 34 Downing street, Brooklyn, N. Y. Edward Simpson was born in Brooklyn fifty-five years ago and, with a brief exception, his home was in that city during the whole of his life. He was educated at the Brooklyn Polytechnic Institute and became familiar with the details of business in the rubber-brokerage office of his father, Edward Simpson. The latter was at one time a member of the important New York firm of H. K. Corning & Co., shipping merchants having a large trade with South America, and, in consequence, handling considerable quantities of India-rubber. On withdrawing from this firm the elder Simpson engaged in the business of a rubber broker on his own account at No. 80 Wall street—in the old Marine Bank building. His son became connected with this business, continuing it alone after his father.

On January 1, 1883, Albert B. Beers became associated with Mr. Simpson, under the firm style of Simpson & Beers, which has been continued until the present time. Their place of business was at No. 54 Pine street until the building containing their offices was torn down, about seven years ago, when they removed to No. 58 William street. When Mr. Simpson began business on his own account there were almost no India-rubber brokers in New York, the principal one being J. S. Abecasis, who, by the way, is still in the trade. He was so successful, both while alone and later with a partner, that the firm of Simpson & Beers reached an important position in the crude-rubber business. While handling most of the various grades of India-rubber brought to this market, their transactions were most largely in Pará rubbers.

EDWARD SIMPSON.

Mr. Simpson married Miss Gould—daughter of a former leading New York dry-goods merchant—who survives him. There were no children. For a few years they lived at Whitestone, L. I., but with this exception their home was always in Brooklyn. Mr. Simpson was a leading member of the Clinton-avenue (Dr. McLeod's) Congregational church, in Brooklyn, of which he was a liberal supporter. He was especially interested in the work of the mission school connected with that church, though he lent a helping hand to every worthy cause to which his attention was called.

The business of the firm will be continued at the same address by the surviving partner, Albert B. Beers, in his own name.

* * *

HENRY KAVANAGH died in Montreal, Que., on November 2, at an advanced age. He was a native of Ireland and removed to Canada early in life in the imperial customs service. When this was transferred to the Canadian authorities he joined the firm of Hibbard & Co., of Montreal, who began the business afterward taken up by the Canadian Rubber Co. In 1860 he was named inspector of customs for Canada, a position which he filled for many years.

THOMAS D. BROWN, employed as traveling salesman by the Sanders Duck and Rubber Co., died suddenly at his home in St. Louis on December 9, of apoplexy, though he had previously been supposed to be in the best of health. He was thirty years of age and was engaged to be married before the end of the year.

* * *

HENRY F. MANDELL, treasurer of the Wellman Sole Cutting Machine Co., Boston, died at St. Margaret's Hospital, Dec. 8, aged 35 years. Mr. Mandell, through his connection with the Wellman machine was well known to the rubber trade and numbered many friends among its most influential members. He was a son of Mr. Mandell of the old Boston firm of Jackson, Mandell & Daniell. He graduated at Harvard in the class of '84, and after a year spent in traveling round the world began business life as treasurer of the Wellman Sole Cutting Machine Co. He was a prominent club man in Boston, was a genial, whole-souled man whose loss is keenly felt in both business and social circles.

FIVE DOLLARS A POUND FOR RUBBER.

THE highest prices obtained for India-rubber in any line are paid at retail for the finest quality of dental gum. One item is listed in catalogues of dental supplies at $5 per pound, this being a delicately-colored pink rubber, designed for "facing" the gums of artificial teeth, the object being to imitate, as nearly as possible, the color of the natural gums. This quality is used for "facing" only, as it lacks the strength necessary for portions of the gums subjected to wear. There are other varieties of dental rubber listed at lower prices, down to $2 per pound, and less.

"There are several manufacturers of dental rubber," said a dealer to THE INDIA RUBBER WORLD, "but the business is principally in the hands of two firms, the position of each of which is peculiar. There is an association of dental-supply men in the United States, the members of which are pledged to buy nothing from outsiders which can be obtained from members of the association. One of the principal dental-rubber manufacturers belongs to this organization, and has the advantage of getting without much trouble the orders of the other members. But, on the other hand, outsiders are not disposed to buy from any one connected with the association, and they are sufficiently numerous to make their patronage of value. This is enjoyed to a large extent by the second of the firms referred to.

Manufacturers of dental rubber, as of druggists' sundries and other specialties, are not anxious to cater direct to the consumer. A few dollars of rubber will satisfy a year's demand of a dentist having a respectable practice, and the expense of looking after a great number of small accounts would practically offset the profits of doing business with the dentists direct. This would be true even if all bills were paid promptly, but it is the experience of the trade that small bills at a distance are often difficult of collection, making it desirable to do business through middlemen, who come into closer contact with the final buyers.

NEW GOODS AND SPECIALTIES.

"AS tough and durable as all that's best can make them." Thus reads the advertisement of the Boston Rubber Shoe Co.'s lumbermen's, and it is complete enough without adding any thing more.

There is no line of rubber shoes that better reveals the wearableness of the material, or the hold-together quality of the construction, than a lumberman's overshoe. If they don't give out when stubbed and scratched and worn, as only a lumberman wears them, they show without any further demonstration, that the right kind of material is in them, and that they have been put together by one who knows how.

The best way to judge of what people think of an article, however, is to see what they wear. Throughout the camps of lumbermen who are felling the northern forests, you will find a large share of the special rubber overshoes which are worn by these men to have been made by the Boston Rubber Shoe Co., and we presume that "tough and durable" has very much to do with it.

A RUBBER GUN-SIGHT.

AFTER a number of years experimenting, an expert in guns has produced what he claims to be a perfect sight. He takes a small piece of half-inch rubber the shape of a cent, or piece of metal the same size, and makes it fast to a rigid wire arm about two inches long, the upper end of which holds the disc so that its lower edge is just on a level with the round of the left barrel. The rubber disc is preferable, because it cannot get bent or twisted. When the gun is at the shoulder with both eyes open in sighting the disc cannot even be seen. It is effective, however, as may be proved by closing the right eye, when it will be seen that the left eye is entirely blocked by the disc. The value of this arrangement can hardly be over-estimated. In the case of a rising bird it allows a clear sight all around it, so that the distance to be aimed above it may be judged to an inch, while in ordinary sighting, when the left eye is closed, the sight is so obstructed by the gun barrels that the gunner does not accurately know if he is aiming a foot or a yard above the quarry.—*Age of Steel.*

THE SIMPLEX HOSE COUPLING AND MENDER.

WE present to our readers a new hose coupling and mender requiring no band or strap of any nature to keep

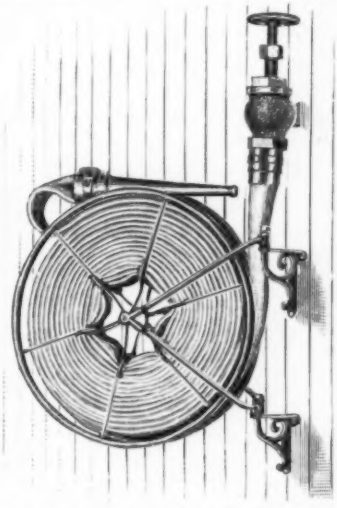
it in place. These goods should meet with speedy favor, as a great saving is made in time of attaching them, to say nothing of the cost and annoyance of straps. The shanks are formed in such a manner as to form an anchor for the coupling, the cone shaped ends embedding themselves in the rubber tubes of the hose.

They have been subjected to a pressure of over 200 lbs. and neither started or showed signs of leakage.

Any desired information regarding these goods will be cheerfully furnished by Charles W. King, 66 Pearl street, Boston, Mass.

WIRT'S WALL REEL.

A NEW wall reel has just been put upon the market, for which we predict immediate success. Its reputation is assured, owing to the fact that it is a production of Mr. R. D. Wirt, the inventor of the well-known all-iron hose reels. The accompanying cut is from a photograph of the No. 3 reel in position, with 50 feet of 2-in. mill hose upon it.



The reels are made in six sizes, three sizes for 50 foot lengths of 1½ 2 and 2½ inch mill hose, and three sizes for 100 feet of the same sizes respectively, or twice the amount of unlined linen hose.

The reel is ornamental and very strong. It swings on two brackets to any angle from the wall, and when swinging parallel to the wall stands out only 7¼ inches, taking up very little space and presenting very little surface for the accumulation of dust. It is handsomely finished in vermilion or plated in nickel, brass or copper, if so desired.

There has long been a demand for a good stationary reel at a reasonable price, and this supplies that demand in every particular. Manufactured by Wirt & Knox Mfg. Co., Independence, Mo.

A NEW AND VALUABLE GUM.

WHAT is known as the Winthrop gum is of late finding a very ready market, particularly among clothing manufacturers and has been a subject of experiment on the mechanical goods men. It is a product of cottonseed oil treated by a special secret process that effectually removes every bit of grease. Further than this the gum is absolutely neutral, that is it contains neither acids nor alkalies. It vulcanizes exactly as rubber does, and in connection with the recovered rubber some very remarkable results have been obtained. Manufactured by the Winthrop Co., 75 High street, Boston, Mass.

A NEW RUBBER REPAIR PLUG.

THE illustration shows the new and practical repair plug for single-tube tires invented by Mr. A. Straus. As will be seen, it has two flanges (instead of one, as usual), which are connected by a shank but 1-32 of an inch long. As no road tire is less than ⅛ of an inch thick, it will be readily understood that when this plug is inserted it is always at a tension and cannot work out nor blow out, and at the same time supplies a double patch, one inside and one outside. The thicker flange of the plug is inserted with pliers in the usual manner, and the thinner one then cemented to the exterior of the tire. The plug seemsof undoubted merit and is said to be a rapid seller. Manufactured by the Newtown Rubber Works, Newton Upper Falls, Mass.

TWO HANDSOME TENNIS SHOES.

THE season of 1896 bids fair to greatly surpass any former season in the demand for Tennis Shoes. The United States Rubber Co. appreciates this fact, and is putting itself in a position to supply the demand. It is making two new shoes, a first quality stamped "Defender," and a second quality stamped "Champion." These are both fine serviceable shoes, made very strong with heavy heels and thick soles, and protected toes for standing hard usage. They are at the same time

light and shapely, have seven eyelets so that they lace higher up than Tennis Shoes have hitherto, a fact that will improve their fit materially.

They are made in white, black and brown duck, the Champion having an additional color in light brown with black dots. The Defender will have in addition to its other excellent qualities, a perforated leather insole for preventing perspiration.

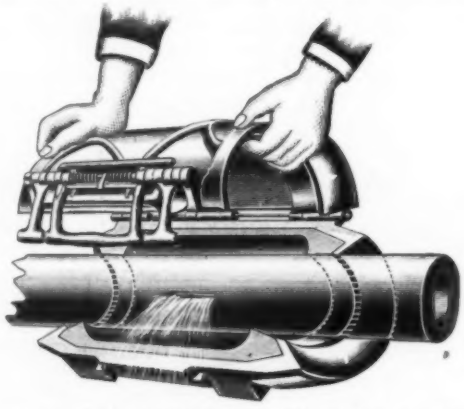
The Defender and the Champion are likely to enjoy a very extended sale, in fact the United States Rubber Co. is already receiving large orders for them. The accompanying cut shows the black duck Defender.

A RUBBER RAZOR STROP.

WHAT is known as the honeback razor strop is perhaps the best sharpener that has yet been put upon the market. It is the result of a series of experiments by the greatest expert in this line in the United States. Particular attention has been paid to the quality both of the emery and the rubber. The rubber side is the quick sharpener, and has a very lasting surface. It however should be used sparingly unless the razor is very dull, its action is so rapid. The rubber side can be used with water the same as a hone, and if it becomes dirty can be cleaned with water or with soap and water. The use of a hone or any dressing whatever is unnecessary with this strop. C. J. Bailey & Co., 22 Boylston street, Boston, Mass., Selling Agents.

THE COOPER HOSE JACKET.

AN apparatus that mends leaks of any kind in fire hose, and under any pressure, is the hose jacket shown in the accompanying illustration. The cut by the way, shows the manner of its application and the necessity for it. A list of the towns and cities to which it has been sold comprises the most important



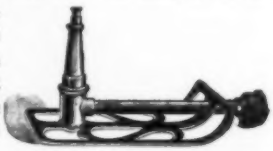
in almost every state in the Union. The jacket has also been often exhibited before state firemen's conventions as a leak-stop and also as a universal coupler. In every case resolutions have been adopted strongly recommending its use in all fire departments. Manufactured by the Cooper Hose Jacket Co., Minneapolis, Minn.

TIRE REPAIRING AT HOME.

THERE is an increasing demand among bicycle agents, repair men and even riders for an apparatus with which they can make repairs on single tube tires at home. That is, repairs that entail vulcanizing the plugs in position, exactly as if they were sent to the factory. The single tube tire is so simple in construction that a very simple apparatus will accomplish this. Certain up-to-date manufacturers appreciating this fact have put a new vulcanizing outfit on the market, which is having a ready sale. It is manufactured by the B. F. Goodrich Co., Akron Rubber Works, Akron, Ohio.

THE TRAVIS TOBOGGAN LAWN SPRINKLER.

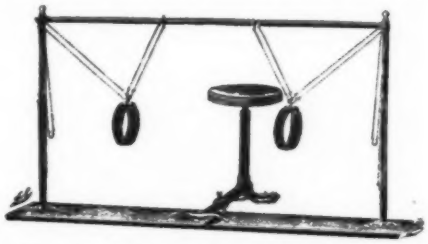
THE sprinkler shown in the illustration derives its name from its similarity to the toboggan. The point is made that being low down upon the lawn it is not liable to be upset, and that if it were turned over the pressure of the water would right it again; also that the sprinkler can be drawn about at will without turning off the water. The atomizer discharge, shown in connection with the sprinkler, has an automatic throat, which can be adjusted to work from a tank pressure or from the highest hydraulic pressure. The nozzle is made with a small brass rod running through it at the discharge end. The nozzle at the discharge end is made flaring on the inside, in which a metal cone, fitting perfectly, forms the spray. In the top of the cone is an indestructible spiral brass spring, arranged so as not to be lost. A fine mist or heavy spray is obtained by turning the thumb screw at the end of the



nozzle one way or the other, in either case the water coming out of the nozzle around the entire circumference of the cone. The spring regulates the movement of the cone up and down, acting as a safety valve for the hose, and avoids any stopping or clogging of the nozzle. The Toboggan sprinkler is adapted for medium sized lawns. Manufactured by the W. S. Nott Co., Minneapolis, Minn.

SANDOW'S DEVELOPER.

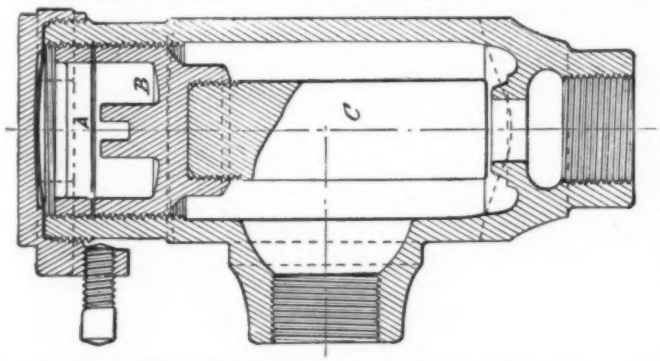
THE latest device in exercising appliances is an invention by Eugene Sandow (the strong man), and an interesting point about it is that it is partially made of rubber. After years of careful investigation and experiments with different arrange-



ments designed for developing the vast number of muscles of the body, Sandow perfected an apparatus that is simple and compact and wonderfully efficient for bringing into play almost every muscle. It is said that this machine is used by Sandow himself in his daily practise. From the illustration it will be seen that the apparatus itself is very simple. In order to fully understand its use one should send for the pamphlet containing twenty-two engravings of Sandow, using the device and illustrating the different positions for the best development of the muscles of the legs, arms, upper body, neck and back, with a list of the muscles brought into use by each exercise. Manufactured by the Independent Electric Co., Thirty-ninth street and Stewart avenue, Chicago.

FOR USE IN RUBBER MILLS.

A NEW and simple trap adapted for heating systems or any place where 500 or 1000 feet of 1-inch pipe are to be taken care of is here shown. The body of the trap is threaded in one end and in the under side to receive the pipes of the heating system. In the other end is cut a thread to receive a nut which carries a plug designed to act as a seal against a seat formed in



the opposite side of the body. The nut is held in place by a check nut, and this end is closed by a screw cap. To adjust the trap the cap is removed, and the check nut and nut carrying the plug are unscrewed until the plug is removed about ¼ inch from its seat. Live steam is then turned through the trap, which is made as hot as possible, when the plug is turned down carefully. The trap is now allowed to cool for a few minutes, and if necessary is adjusted again, or until nothing but water escapes, when the check nut and cap are replaced. The trap depends for its operation upon the contraction of the plug, due to a lowering of the temperature, and which withdraws it from its seat. The trap opens when there is water in the system and closes when there is steam, the composition of the plug being such that very slight changes in temperature will insure the working of the device. No class have had more trouble from worthless steam traps than have rubber manufacturers. When therefore a well-known concern in steam specialties, whose goods all rubber mills use and endorse, comes out with an article like the Diamond Trap it is likely to have at least a fair trial. Manufactured by Jenkins Bros., John street, New York.

A PNEUMATIC OR NOT : AS YOU PLEASE.

THIS tire, known as the Beebe, is constructed on the general principle of a hose pipe tire, but has in addition a zig-zag spring that is used in the same relative position, that fabric is interwoven in hose. This makes one complete section of hose reinforced with a spring which gives to it when used as a bicycle tire, the same easy riding qualities possessed by a tire in which air is confined as the cushioning quality. These tires can be manufactured with any degree of resiliency, simply by increasing or decreasing the wrappings of the spring. The wire spring used in the construction of these tires is made from a light fine wire having a tensile strength 250 pounds to the inch. The spring is vulcanized into the rubber so that it is matted solidly into the walls of the tube. The company are showing a tire that has been run 2500 miles in the season and is now in perfect condition. Before this tire was placed upon the wheel the valve and valve stem were cut off, thus leaving it dependent entirely upon its spring properties. It is said that the resiliency of this tire was equal to that of the best pneumatic tires. Manufactured by the Beebe Tire Mfg. Co., Sandusky, Ohio.

A TIRE FOR HORSELESS CARRIAGES.

THE special point about this tire is the simple and inexpensive form of fastening, for holding it in position on the wheel. With this fastening there is said to be no liability of a tire being torn out of its channel during rapid riding. In attaching it there is no soldering, brazing or welding of the ends of the small wires. The fastening can be readily removed or, in attaching, the tire can be put on the wheel in one piece or in two half sections. If preferred for heavy service they can be applied in several sections. This is one of the chief merits claimed, as in that case the rubber could be molded to conform in curve to suit the diameter of the wheel, thus adding to its durability. This tire is the invention of A. McIntosh Williamson, 2204 Fitzwater street, Philadelphia, Pa.

THE GIBBS RUBBER CUSHIONED HORSESHOE.

THIS shoe which by the way is winning the warmest endorsement the country over consists of a forged steel frame, pierced with slots through and around which a rubber cushion is vulcanized to form a compact and solid but elastic shoe, composed partly of rubber and partly of steel. The rubber on the bottom of the shoe is plainly shown in the cut, while the darker line on the part of the shoe coming next to the foot indicates the rubber encircling this part of the shoe. It is ex-

plained that the rubber takes the concussion of the blow of the foot on the pavement off of the hoof, leg and shoulder of the animal, curing the lame horse and saving from lameness sound animals; also that it keeps the foot from heating, not only making the hoof healthy, but preventing puffs and windgalls, and relieving and preventing corns. The rubber on the bottom is referred to as preventing slipping on smooth pavements. The point is made by the manufacturers that the device is not

a pad, but that it is a regular cushioned shoe, covering no more surface on the hoof than an ordinary steel shoe. The directions for use that the makers issue are terse and to the point. They say:

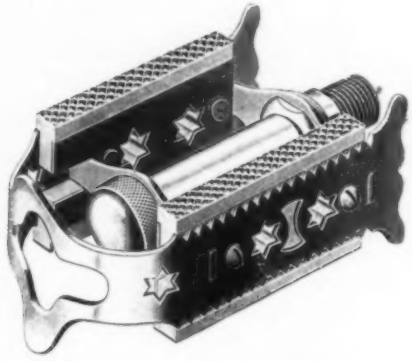
"The same care should be taken with this shoe as with all other shoes, no more, no less. The foot of your horse cannot be burned to fit this shoe, but must be cut or pared level so that it will have a perfect bearing. In nailing on care should be taken to set the nail heads down into recess in shoe made for that purpose, as far as possible. Remember that the frame of the shoe is made of steel and can be formed or bent to fit any desired shape cold, by placing it over the horn of an anvil, or in any way most convenient to you. Manufactured by the Whitman & Barnes Co., Akron, Ohio.

A BICYCLE WITH A PNEUMATIC FLOAT.

THE so-called land and water bicycle, while it may seem at first a wild idea, is attracting considerable attention. It is intended for use at life saving stations, the general patrolling of the coasts or at summer resorts where prompt action is sometimes necessary in saving the lives of reckless bathers. When in use on land the bicycle is propelled in the usual way. On entering the water a lever is moved connecting the pedal crank with the propeller, and at once the bicycle becames a small launch capable of propelling the rider at a good speed. The steering arrangement is governed by the handles of the bicycle. The whole is buoyed by an inflated rubber tube something like a huge pneumatic tire, which surrounds both wheel and rider, and prevents any possible capsizing of the contrivance, the greatest weight being below it. This rubber tube, by the way, is filled with air by the means of a pump, and while it is rather bulky does not add to the weight of the machine appreciably. This is the invention of Dr. Charles E. Ougley, New York.

THE STAR COMBINATION PEDAL.

THESE pedals are designed especially for high-grade bicycles and are made of the very best materials obtainable. Each piece of steel is tested for strength and wearing quality, the rubber is of a good, tough,



non-slipping compound, and the completed pedals are carefully tested before leaving the factory. Manufactured by the Bridgeport Gun Implement Co., 313 Broadway, New York.

THE RED CROSS TIRE VULCANIZER.

THE Red Cross people are again to the front with another novelty, this time in the shape of a vulcanizer. The firm say that they have at last discovered a way in which the average tire repairer can successfully vulcanize rubber without the skill and detail which has always been considered necessary in work of this sort. They state that with care, the outer casing of a tire can be repaired no matter how badly it may be damaged, so that the repair is hardly perceptible, and also that old solid or cushion tires can be shortened or lengthened as amount desired. They further state that this vulcanizer, a cut of which is here shown, means the saving of hundreds of dollars to repair men and cycle dealers, as in two days' time old tires enough can be reclaimed to more than twice pay for it.

The vulcanizer with all necessary tools and information is now ready for shipment to purchasers in any part of the United States or Canada either by freight or express. Manufactured by A. U. Betts & Co., Toledo, O.

THE delivery wagons of the great firm of Jordan, Marsh & Co. (Boston), have been equipped with the Hood tires by the Boston Rubber Co.

NEW TRADE PUBLICATIONS.

[*Copies of these Catalogues can be obtained gratis upon application to the manufacturers issuing them.*]

HODGMAN'S mackintoshes for the season of 1895-96 form the subject of a recent publication devoted to the details of the prominent styles in ladies' and gentlemen's waterproof garments. The Hodgman Rubber Co. make a point of presenting nothing but what is correct in fashions, so that their announcements may always be regarded with interest. Several illustrations in this pamphlet appear in connection with the descriptions of new styles.

=In the manufacture of surgical appliances India-rubber has been put to one of its most important uses for the benefit of mankind. Trusses alone give rise to an important demand for this material, and it may be said that the invention of the hard-rubber truss, in 1859, marked a new era in the mechanical treatment of hernia. An important firm in the manufacture of such goods—and for years the only one—is that of I. B. Seeley & Co. (Philadelphia), whose illustrated catalogue is a copyrighted pamphlet of 112 octavo pages. It may be termed a handbook of value on the subject of which it treats, and what it says of rubber as "a hygienic material" is worthy of careful reading. In addition to hard-rubber trusses and supporters, this catalogue describes a considerable number of other articles into which India-rubber in some form enters, including abdominal belts, shoulder-braces, and, particularly, surgical elastic hosiery.

="Good Rubber Goods of All Kinds" is the title of a 48-page catalogue of the stock of the Fall River Rubber Co. (Fall River, Mass.), of which J. Francis Hayward is proprietor and James W. Cross manager. Besides their own products, the Fall River company are dealers in a wide range of goods from leading factories. The pages of this catalogue are of good size and liberally illustrated with cuts of the articles offered for sale, the whole forming an excellent model for rubber-goods dealers who may wish to advertise through the use of catalogues.

=The Newton Rubber Works (Newton Upper Falls, Mass.), have issued a pamphlet for the 1896 trade "About Straus, Newton, and Slick Tires" in which is condensed not a little practical information on the structure of bicycle-tires and the proper care of them. It begins by pointing out the faults of single-tube tires in the past, and the efforts made by the Newton company to remedy them. The remainder of the pamphlet is devoted to the subject of punctures and repairs, with incidental particulars on what the company consider to be defects within the terms of their tire guarantees. Straus tires, by the way, have made some good "records."

=An art poster which will be certain to delight collectors is lettered "Goodrich tires stand the wear—ask Mr. Barnes of New York," in addition to which, beneath the picture, are the addresses of The B. F. Goodrich Co., and of their New York selling agents, the Columbia Rubber Works Co. This is a very large poster, especially happy in color effect, and is intended for advertising three grades of single-tube tires—the "Goodrich," "999," and "Tecumseh."

="How to Use Sandow's Developer" is the title of a pamphlet containing twenty-one half-tone views of Eugene Sandow, "the strong man," using "Sandow's Developer." Beneath each picture are instructions for the particular exercise there illustrated, and at the end of the pamphlet is a list of the muscles developed by the use of this device. The "developer" is a machine composed of a frame, straps, and several elastic cables. This pamphlet comes from the manufacturers, the Independent Electric Co., Chicago, Ill.

THE RECLAIMED-RUBBER INDUSTRY.

THE superintendent of a rubber-factory having a reputation for the high quality of its mechanical goods was asked recently about the desirability of these goods, when worn out, for the making of reclaimed rubber. "They are not at all desirable," he replied. "Mechanical rubber-goods generally are too highly vulcanized for them to make good rubber scrap. Besides, our products are in such great variety, representing differences in the compounds used and in vulcanization, that it would be next to impossible for a reclaimed-rubber manufacturer to get together enough material of any given quality to establish a standard product based upon it. In our factory we have used the rubber reclaimed from shoes, which can be depended upon regularly as to quality, enabling us to compound it with certainty as to results. We have, however, used satisfactorily some reclaimed rubber made from carsprings, which has exhibited an evenness of quality equal to any other in the market."

* * *

THE United States government reports the following imports of rubber scrap, in pounds, for twelve months ending June 30 in 1894 and 1895, respectively:

FROM—	1894.	1895.
Belgium	.....	3,916
Denmark	.....	52,053
France	68,211	52,045
Germany	707,647	742,259
Portugal	.....	13,637
Russia	.....	131,361
Sweden and Norway	10,675	15,540
Turkey	131,621	67,405
United Kingdom	188,997	254,489
Canada	664,498	583,871
Cuba	2,359	3,721
British West Indies	.....	112,266
Total	1,774,008	2,032,563

The average export value of the receipts for 1893-94 was 3.14 cents per pound and for 1894-95 about 3.10 cents.

NEW HOME OF THE HODGMAN CO., BOSTON.

ON the first of January the Boston branch of the Hodgman Rubber Co. took possession of their new store at 135 Essex street. It is a fine light corner store, on the ground floor of the new Ludlow building, and is exactly fitted to their wants. When the representative of THE INDIA RUBBER WORLD called Manager H. C. Noyes was busily overseeing the arrangement of the stock, that customers whether they were buyers of mackintoshes, sundries, bands or any other of the goods of the Hodgman Co. might have the best possible chance to select. He showed the visitor around with an evident pleasure that the new and elegant quarters were calculated to inspire. The store is light, roomy, furnished with electric lights, freight elevator, and every modern convenience, besides being right in the heart of Boston's wholesale district.

WANTED IN SIBERIA.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Do you know of any party making typewriter characters of rubber? If so please print short list and send copy containing it. Please insert this notelet so that firms having such type can address specimens and prices direct. LODIAN,

12 post rest. Vladivostok, Siberia.

HEARD AND SEEN IN THE TRADE.

WHILE everybody in the mechanical-goods trade has been talking about prices and guarantees and other things about which some changes in existing methods might be desirable, there seems to be no disposition to bring about a meeting of the Rubber Manufacturers' Association, though it would be President Spadone's business to call one if requested to do so by only half a dozen members. The fact is that some of the manufacturers hope gradually to work away from their present position without the formality of agreements and the annoyance of contracts to do or leave undone certain things. Some of them think that the way to get a fair price for goods is simply to ask it, and that the way to stop unreasonable guarantees for mechanical rubber lines is not to make them any longer. "I believe that the agitation of the guarantee question is bearing fruit already," said one manufacturer. "We have lately accepted a good-sized order from a railway purchasing-agent who formerly demanded a stiff guarantee, but who in this case said nothing about it. When we mentioned the omission he said he had heard that guarantees were being withdrawn by the different companies, so that it would not be worth while to ask for one."

* * *

A NEW phase of the guarantee question was introduced in a conversation the other day by a rubber-manufacturer, in this vein: "The guaranteeing of goods might prove to have much more serious results than any salesman has yet dreamed of. Did you read of the killing of nine men by the explosion of a steam-pipe on one of the great ocean steamers? Suppose that pipe had been guaranteed by the manufacturer. Where would have been the limit of his responsibility in an action against him for damages? Suppose that it had been rubber air-brake hose, on a railway train, and that by its failure a fatal accident should have occurred. Such guarantees as I have seen made could be so construed as to fix the responsibility for the killing of passengers upon the manufacturer of hose which gave way at a critical moment. This may be termed an extreme view of the matter, but, I ask, what is the use of making guarantees if they are not intended to mean what they say? In a country where business men are presumed to be honest it ought to be understood without saying that the buyer of any article has a right to expect a fair amount of service under reasonable usage, failing in which he may have recourse to the dealer. What's the excuse, then, for rubber-manufacturers who have the proper confidence in their goods for adopting such unbusinesslike methods in their particular line of business?"

* * *

"THE tire-makers are not the only rubber-men in trouble over having been too liberal in guaranteeing their goods," said a manufacturer of a general line of mechanical rubber. "As everybody knows, the tire people began by making guarantees so recklessly that some of them have done their business at a loss. There are manufacturers in some other lines who have not yet been heard from so freely, but who would gladly give up half their business not to have been so lavish with guarantees. The railroad-supply trade affords an illustration. The air-brake hose business in particular has been forced by means of guarantees. You see that some houses never have learned the true art of selling goods. This consists of offering something for which there is a real demand, and in asking and getting a fair price for a good quality. But some people can sell goods only by discounting the prices of their competitors, or by being more lavish with guarantees, or by some other means equally suggestive of a want of confidence in their own goods. Well, it has been so with the hose sold to railroad companies. For a long time there was plain sailing, for railway managers were handling a great deal of money and discounting a prosperous future; they bought all kinds of supplies liberally; and if a lot of rubber hose failed sooner than it ought to have done—well, there was trouble in tracing its history and proving a good claim under the manufacturer's guarantee. In other words, the guarantee on railroad hose was, for a long time, a dead letter. But the recent severe depression among the railroads has introduced a spirit of economy which not only limits buying to actual needs, but looks to getting the worth of the money out of everything that is bought. The result is that purchasing agents are keeping their eyes on guarantees in a way never before dreamed of, and inventing methods for recording the history of every piece of hose used. The terms of the guarantees are often such that their enforcement would leave the manufacturer at a disadvantage. But nobody in the trade apparently would dare now to inaugurate a policy of less liberality in the making of guarantees, lest some competitor should seize the opportunity to gain an advantage."

* * *

NOBODY has more reason to be interested in prices just now than the bicycle-tire manufacturers. Of course the increased price of crude rubber affects them as it does the other branches of the trade, while the upward movement in cotton has its effect on tire-fabrics. But while tire prices were already too low, in the opinion of some manufacturers, the recent tendency has been toward still lower prices. There are some tires in the American market still sold at what may be called fancy prices, and their manufacturers doubtless are doing a profitable business, but such tires as are used by the rank and file of bicyclists have now reached a price so low that the manufacturers' margin of profit must be very small. This is, of course, on the supposition that the materials used agree in quality with the manufacturers' claims.

* * *

THE period of novelty for the rubber carriage-tire is past for New York, at least, and I have reason to believe that the makers of vehicles are even more interested in selling rubber tires in some other cities than here. Apparently most of the cabs one sees on the streets nowadays are tired with rubber, and the same is true of a steadily-increasing number of private carriages of every description. Rubber tires are to be seen far up-town, down-town, and on the east and west sides. During the holidays, when the streets in the shopping districts were crowded with carriages, rubber tires were constantly in sight. Some one who took the trouble to count many hundreds of carriages said that from 30 to 36 per cent. were equipped with rubber. By the way, Mr. Channing M. Britton, late president of the National Carriage Manufacturers' Association, is of the opinion that at last something good in pneumatic rubber tires has been invented by an Ohio man. The principal feature in this case is a spiral spring inside the rubber instead of compressed air to keep it in shape. I was told lately by a man who applied to a well-known tire concern in New York for a set of pneumatic tires for his carriage that he was told they could not be put on without sending the wheels to their works on the other side of the Atlantic.

THE MAN ABOUT TOWN.

THE TRADING IN RUBBER STOCKS.

IN consequence of the suggestion of war with Great Britain, growing out of President Cleveland's message on the Venezuelan question, the stock markets on both continents were greatly unsettled during December, with a great fall in prices, in which the shares of the United States Rubber Co. participated. The transactions in these shares on the New York Stock Exchange were in detail as follows:

LISTED ON THE NEW YORK STOCK EXCHANGE.

201,660 shares Common = $20,166,000
194,005 shares Preferred = $19,400,500

DATES.	COMMON.			PREFERRED.		
	Shares.	High.	Low.	Shares.	High.	Low.
December 2.....	450	36¼	35¾	15	94⅞	94⅞
December 3.....	1,120	35½	34	320	94	94
December 4.....	2,280	34	32½	60	94⅞	94⅜
December 5. ...	1,025	33½	32¾	10	95	95
December 6.....	325	34	33⅛	123	94¾	94¾
December 7.....	.....	....	....	32	95⅛	95
December 9.....	.....	....	....	60	94¼	93¾
December 10....	200	33⅛	33⅛	640	95	94⅛
December 11....	.... .	....	....	530	94½	94
December 12....	600	33	32¾	60	94⅞	94⅛
December 13....	260	33¼	32¾	220	94¾	94⅜
December 14....	.....	....	....	328	95⅛	95
December 16....	60	34⅛	33½	10	95⅛	95⅛
December 17....	600	33¾	33	212	94⅝	94½
December 18 ...	310	32⅞	32¾	100	94¼	94¼
December 19....	2,880	32¾	31	819	94	92¾
December 20.. .	1,570	30	21	800	80	75
December 21....	910	24	22	300	76½	76½
December 23. ..	1,220	27	25	420	85	85
December 24....	1,204	27	26	28	90	85½
December 26....	1,530	28¾	27	25	89¼	89¼
December 27....	10	28	28	....	....	....
December 28....	690	26	25½	20	87½	87
December 30....	106	25¾	25¾	110	85⅛	85½
December 31...	510	26⅝	25¾	305	85	84
Total for m'nth	17,860	36¼	21	5,547	95⅛	75
December, 1894	24,561	45½	41⅛	2,144	99¼	97
Year 1895....	14,397	41	38½	4,677	94⅝	93½
Year 1894....	.....	45⅛	33	....	99¼	79¾
Year 1893....	.....	60⅜	17	....	99½	50

THE RAYMOND RUBBER CO. WINS.

THE INDIA RUBBER WORLD is in receipt of the full text of the opinion lately given by the U. S. Circuit Court of Appeals in the case of the Chemical Rubber Co. vs. the Raymond Rubber Co. The document reviews the position of the appellant and appellee, cites the decision of the lower court which was in favor of the Raymond Rubber Co., and ends by saying: "It is plain that upon the appellant's theory of Mr. Mitchell's inventions his patents are void for lack of compliance with the statutory requirements with respect to the description of the manner and process of using his discovery. The decree of the Circuit Court is affirmed." Lack of space forbids further quotation from this document which in view of the long litigation on the part of the Chemical Rubber Co. to sustain the Mitchell patents is of exceptional interest.

MANUFACTURERS of pneumatic tires especially of the double tube variety, are advised to look into the Cable Refining process, as a means of guarding against imperfection in the rubber. This by the way is not an advertisement but an honest expression of opinion.

A FAILURE DUE TO GOOD WEATHER.

ROBERT SIMPSON has been appointed receiver for the Vendome Rubber Co., both in New York and in New Jersey, on the application of Edmond A. St. John, the treasurer, and John P. Van Doren, a director. This is a corporation under the laws of New Jersey, with a mackintosh manufactory at No. 122 Centre street and offices and salesroom at No. 38 White street, New York. The receivership was precipitated by attachments obtained by creditors, one of which was for $15,125, in favor of J. Galt Smith & Co., dealers in cloths. The sheriff had in hand attachments from six other creditors, aggregating $6600. Service was also made on Horace Maxwell & Co., the Vendome company's commission merchants, to attach the equity of the company in the goods held by them, and upon which advances of cash had been made.

The company have been in existence two or three years. Their capital is reported at $20,000. The officers originally were Benjamin B. Colby, president; S. Warren Mauger, secretary; and Edmond A. St. John, treasurer. Last year S. S. Butler became president of the company. According to a published statement: "The liabilities were not stated, but they are currently reported to be over $75,000. The assets consist of machinery and plant, which cost $8,000, and a stock of mackintoshes and rubber coats valued at $90,000 at ordinary sale, but only $50,000 at forced sale, against which there are advances of $36,000 made by the company's commission merchant." The receiver has taken charge, but the inventorying has not proceeded sufficiently to permit a proposition to be made to the creditors of the company.

"Our embarrassment may fairly said to be due," said President Butler to THE INDIA RUBBER WORLD, "to the weather, which, since the beginning of the season, has been most unfavorable for the trade in waterproof clothing. A year ago we began the season with a large stock of mackintoshes, which we were fortunate enough to dispose of entirely. Our plans for the present winter were laid for a repetition of this success, and our sales were in good volume at the opening of the season. But the expected supplementary orders failed to come in, and with assets consisting only of unsold stocks, it became impossible to meet our obligations."

SOME RUMORS FROM WOONSOCKET.

JOSEPH BANIGAN was interviewed lately at Providence about a rumor that he intended purchasing the Harris Privilege mill property, at Woonsocket, and another that he was negotiating for fifteen acres of land between Providence and Pawtucket upon which to erect a rubber-factory. He assured the reporter that there was no truth in these rumors. Besides, the Treasurer of the Harris Woolen Co. has informed the Woonsocket *Reporter* that he knows nothing about any intended sale of the first-named property to Mr. Banigan. The report has continued in circulation, however, that Mr. Banigan is preparing to purchase or build a new rubber-factory, and start his two sons in business for themselves. In reply to this a friend of the family is reported in as saying, in an interview, that W. B. Banigan and John J. Banigan, who are general managers respectively of the Marvel Rubber Co. and the Woonsocket Rubber Co., are not likely to resign these positions. The same person said that Mr. Banigan might retire from active business at the expiration of his current term as president of the United States Rubber Company, to enjoy his fortune, but that his idea of rest would not involve the building of a new factory.

OFFICIAL STATISTICS OF INDIA-RUBBER AND GUTTA-PERCHA.

For the United States Fiscal Year Ended June 30, 1895.

[By courtesy of the Chief of the Bureau of Statistics of the Treasury Department.]

INDIA-RUBBER.

I.—Imports of Crude India-Rubber, by Countries.

FROM—	Pounds.	Value.
Europe:		
Belgium	123,643	$ 65,442
Denmark	2,238	637
France	126,625	47,484
Germany	1,306,146	530,727
Netherlands	255,784	98,856
Portugal	1,460,449	627,530
United Kingdom	5,985,761	2,865,690
America:		
Brazil	26,489 207	13,195,255
Chile	1,924	1,051
Colombia	645,045	214,671
Costa Rica	30,978	8,033
Ecuador	938,379	249,933
Guatemala	84,115	27,649
Guiana—Dutch	105,368	39,824
Honduras	256 955	78,949
Honduras—British	30,195	11,330
Mexico	160,802	54,866
Nicaragua	907,243	342,631
Salvador	21,511	5,588
Venezuela	41,325	19,764
West Indies—British	27,697	10,896
Asia:		
East Indies—British	627,690	114,388
Africa:		
British Colonies	68,558	30,995
Madagascar	31,003	14,807
Other Africa	12,966	8,155
Total	39,741,607	$18,353,121
Total, 1893-94	33,757,783	$15,077,993
Total, 1892-93	41,547,680	17,809,239
Total, 1891-92	39,976,205	19,718,216
Total, 1890-91	33,712,089	17,856,280

II.—Imports of Crude India-Rubber, by Customs Districts.

AT—	Pounds.	Value.
New York	36,925,078	$17,253,237
Boston	2,121,875	848,365
New Orleans	625,969	221,634
San Francisco	56,734	16,207
Mobile	1,144	398
Total	39,741,607	$18,353,121

III.—Exports of Crude India-Rubber, by Countries.

TO—	Pounds.	Value.
Canada	702,932	$303,116
Colombia	2,880	1,413
France	102,289	51,601
Germany	127,547	66,068
Japan	3,38	2,061
Netherlands	22,135	12,299
United Kingdom	421,968	225,537
West Indies—Cuba	968	744
Total	1,384,048	$662,839
Total, 1893-94	2,344,836	$1,142,007
Total, 1892-93	1,073,369	617,194
Total, 1891-92	1,600,824	867,371
Total, 1890-91	1,041,300	592,251

IV.—Imports of Manufactures of India-Rubber, by Countries.

FROM—	Value.
Austria-Hungary	$ 278
Belgium	5
Denmark	4
France	91,060
Germany	117,159
Italy	3,348
Netherlands	5
Sweden and Norway	56
Switzerland	243
United Kingdom	101,057
Dominion o Canada	1,890
Mexico	83
West Indies—Cuba	2
China	74
Hongkong	28
Total	$315,902
Total, 1893-94	$309,308
Total, 1892-93	338,435
Total, 1891-92	371,580
Total, 1890-91	354,845

V.—Imports of Manufactures of India-Rubber, by Customs Districts.

AT—	Value.
Baltimore	$ 1,539
Boston	33,700
New York	241,969
Philadelphia	20,317
Providence	218
New Orleans	210
San Francisco	5,252
Champlain, N. Y.	387
Chicago	7,551
Minnesota, Minn	445
Cincinnati	297
Indianapolis	543
Louisville	520
St. Louis	1,614
All other ports	1,350
Total	$315,902

VI.—Exports of Manufactures of India-Rubber (and Gutta-Percha), by Countries.

TO—	Boots and Shoes.	Other Goods.
Europe:		
Austria-Hungary	$ 90	$ 143
Belgium	4,500	42,467
Denmark	1,857	6,206
France	10,764	67,463
Germany	2,230	141,890
Italy		27,687
Netherlands		42,428
Portugal		14
Russia		1,173
Spain		495
Sweden and Norway		1,296
Turkey	1,635	26
United Kingdom	109,030	453,697
America:		
Nova Scotia, New Brunswick	25,462	12,506
Quebec and Ontario	17,066	109,600
British Columbia	16,793	9,908
Newfoundland and Labrador	4,084	783
Miquelon and Langley	2,580	84
Mexico	1,131	93,783
Costa Rica	35	3,483
Guatemala	208	9,930
Honduras	90	2,551
Nicaragua	244	2,441
Salvador		4,410
British Honduras		160
Bermuda	24	348
West Indies—British	319	7,960
Danish	12	239
Dutch	12	424
French	11	28
Spanish	4,890	40,870
Haiti	1,348	1,282
San Domingo	20	2,196
Argentina		3,678
Bolivia		164
Brazil	426	18,321
Chile		7,507
Colombia	1,472	7,920
Ecuador	32	1,561
Guiana—British		143
Dutch		268
French		14
Peru	28	3,068
Uraguay	194	493
Venezuela	515	7,597
Asia:		
China	360	4,177
East Indies—British		948
Hongkong	312	664
Japan	4,810	14,631
Russia		118
Turkey	213	35
Oceanica:		
British Australia	11,500	34,275
French Oceanica		217
Hawaii	1,041	19,176
Phillipine Islands		1,329
Africa:		
British Colonies	1,210	13,747
Canary Islands		19
Portuguese Colonies		14
All other Africa		15
All other countries		118
Total	$225,986	$1,279,156
Total, 1893-94	$155,011	$1,306,831
Total, 1892-93	252.391	1,357,015
Total, 1891-92	185,570	1,232,497
Total, 1890 91	141,679	1,094,764

NOTE.—The exports of rubber boots and shoes embraced 383,793 pairs, as against 261,657 pairs during the preceding twelve months and 410,950 pairs in 1892-93.

VII.—Exports of Manufactures of India-Rubber (and Gutta-Percha), by Customs Districts.

FROM—	Boots and Shoes.	Other Goods.
New York	$ 45,846	$850.565
Boston	133,345	117,358
Philadelphia		52,530
Vermont ports	4,053	79,893
San Francisco	9,326	48,766
Champlain, N. Y.	722	28,573
Bangor, Me	4,844	5,608
Puget Sound	11,414	5,941
All other ports	20,436	89,927
Total	$225,986	$1,279,156

VIII.—Exports of Foreign Manufactures of India-Rubber and Gutta-Percha by Countries.

TO—	Value.
India-Rubber:	
France	$ 397
Germany	428
Dominion of Canada	514
Mexico	155
Colombia	27
British Australasia	10
Hawaii	145
Gutta-Percha:	
Germany	212
Total	$1.888

GUTTA-PERCHA.

I.—Exports of Crude Gutta-Percha, by Countries.

To—	Pounds.	Value.
United Kingdom	1,067	$ 407
Dominion of Canada	503,685	115,847
Total	504,752	$116,254
Total, 1893-94	8,609	$2,523
Total, 1892-93	18,716	4,243
Total, 1891-92	8,557	5,170
Total, 1890-91	51,950	15,110

NOTE.—It is evident from the unusually large movement of Gutta-percha quoted here that the government's classification has been widely wrong for 1894-95.

II.—Imports of Crude Gutta Percha, by Countries.

From—	Pounds.	Value.
France	1	$ 1
Germany	213,388	58,218
United Kingdom	26,529	3,860
Dominion of Canada	156	148
Mexico	6	2
Honduras	4,420	1,102
West Indies—British	1,109	361
Spanish	465	8
Colombia	20	6
Guiana—Dutch	4,956	1,992
East Indies—British	1,075,794	56 603
Total	1,326,794	$122.261
Total, 1893-94	498,763	$84,340
Total, 1892-93	582,278	155,438
Total, 1891-92	308,239	114,874
Total, 1890-91	960,835	164,524

III.—Imports of Manufactures of Gutta-Percha, by Countries.

From—	Value.
France	$ 1,337
Germany	61,226
United Kingdom	8,579
Dominion of Canada	57
Total	$71,199
Total, 1893-94	$30,654
Total, 1892-93	81,173
Total, 1891-92	61,276

NOTE.—These goods, to the value of $64,334 (of the importations for the year last closed), were entered at the port of New York.

TRADE AND PERSONAL NOTES.

THE announcement comes from Manáos, Amazonas, of the establishment of a house under the name of Sears & Co., as a branch of R. F. Sears & Co., of Pará, for the execution of orders for India-rubber, nuts, and other products of the Amazon valley, including Peru and Bolivia.

=The Hon. L. D. Apsley, president of the Apsley Rubber Co. (Hudson, Mass.) and representative in congress for the fourth Massachusetts district, has been placed by Speaker Reed at the head of the committee on manufactures, and included in the committee on labor.

=Contracts were awarded on December 23 for India-rubber supplies for the city offices in New York. The successful bidders for supplying rubber bands were the Manhattan Supply Co. The L. W. Ahrens Stationery and Printing Co. secured the contract for rubber erasers, which previously had fallen to the first named concern. The Manhattan Supply Co. have been organized for several years past, for the purpose of bidding for contracts for supplying public offices—whether municipal, state, or national—with their requirements of every kind. They are frequently successful bidders for rubber supplies for the United States navy-yards and for various other departments of the government. These toys have the advantage of not cracking, as rubber too All the rubber goods embraced in the above contracts are of E. Faber,s manufacture.

=George N. Greeley, lately reëlected for a third term in the board of aldermen of Brockton, Mass., is a director in the Monarch Rubber Co. He belongs to the firm of Barrows & Greeley, tack-manufacturers.

=The people of Clinton, Iowa, are attempting to secure the location at that point of a rubber-goods factory, but what particular concern is meant has not been reported.

=In regard to the reports of the building of a new rubber-manufactory at Bristol, R. I.—according to the Providence *Journal*—some of the parties who were said to be interested have stated that so far no decisive action has been taken to form a company, although there has been some talk about the matter by two Bristol rubber-men.

=The new rubber concern organized at Akron, Ohio, by J. F. Seiberling and Frank Reifsnyder is to be known as the Akron India Rubber Co. When a charter was applied for, under the name of the Akron Rubber Manufacturing Co., objection was made by the Akron Rubber Co.—one of the several branches of the B. F. Goodrich Co.—that the similarity of names would lead to confusion. The new company contended that this name was distinguished from the name of the other by the word "manufacturing," which indicated plainly the exact nature of their business, which was not true of the name of the opposing concern. The secretary of state, however, decided in favor of the older company. Later the B. F. Goodrich Co. have sued for an injunction restraining the new company for using the name chosen by them. One of the members of the new company states that there are nearly $90,000 worth of orders on hand.

=Coupons due January 1 on the 6 per-cent. mortgage debenture bonds of the New York Belting and Packing Co., Limited, were payable on and after that date on presentation at the office of the Knickerbocker Trust Co., No. 66 Broadway, New York.

=An effort was made recently by the Snow Drift Rubber a company manufacturing a specialty in rubber shoes, at Lynn, Mass., and in need of larger quarters, to buy the plant of the old Pará Rubber Shoe Co. (South Framingham, Mass.), but this failed on account of a feature in the present title to the property, given by the United States Rubber Co., providing that it shall never again be used in the manufacture of rubber shoes. Meanwhile the Lynn concern are attempting to secure some other plant at South Framingham.

=A dinner was tendered to Charles L. Johnson, director of sales of the United States Rubber Co., on the evening of December 13, at the Hotel Savoy, in New York, by Walter S. Ballou, Chester J. Pike, and E. H. Paine, selling-agents of the company. The others present were Colonel Samuel P. Colt, of the National India Rubber Co., and Harry E. Converse, Homer Sawyer, and Lester Leland, of the Boston Rubber Shoe Co. It was an informal affair, but the dinner was one of the most attractive that has been served in this hotel.

=The Puncture Proof Tire Co. (Quincy, Ill.) have sent us one of their pamphlets descriptive of Stahl's puncture-proof, tire, upon which a patent has been applied for. It is a single-tube tire, looking not unlike other tires of its class, but constructed with a heavier tread than other tires.

=Just as we go to press we learn that ground has been broken for a new rubber shoe factory in Philadelphia. The machinery which consists of 60 inch mills, full sets of soling, upper, rag and friction calenders, is already built and will soon be in place. The plant by the way will be close to the B. & O. R. R. and will face the Schuylkill river with a good waterfront and fine wharf. The factory will not turn out more than ten thousand pairs daily at first. The name Penn Rubber Co. has not been formally adopted as yet, but is a probable choice.

=W. A. McGraw & Co., rubber jobbers at Detroit, Mich., in addition to their house force, give constant employment to six salesmen, whose territory includes the state of Michigan and portions of Ohio and Indiana.

=George W. Perry & Co., St. Louis agents for the American Rubber Co., have removed from No. 612 St. Charles street to Nos. 511–513 Washington avenue, where they occupy five floors, giving them much more space than formerly.

=The Fairfield Rubber Co. (Fairfield, Conn.) closed their factory during the first week of the year for the annual stock-taking and repairs. They have enough orders on hand, however, to insure continuous running throughout the season. Some extra pebbling machines have recently been added of new designs to be used on carriage-cloths.

=The British-American Ball Nozzle Co., the prospectus of which was lately noticed in THE INDIA RUBBER WORLD, have begun business in London, having offices at No. 52 Oxford street, W. They are represented in the United States by W. L. Boyle, No. 47 Wall street, New York.

=The especially attractive dressing of the windows of the Twenty-third street store of the Hodgman Rubber Co. (New York) during the holiday season was due to the taste and care of Manager Fuller.

=The works of the new Kokomo Rubber Co. (Kokomo, Ind.) were expected to begin operations about the first of the year, employing a hundred people in the manufacture of bicycle-tires.

=At Akron, Ohio, the sheriff lately closed the doors of the Parisian Rubber Co. to satisfy a claim held against George M. Baldwin, the manager. The company have been engaged in the manufacture of small specialties, and have machinery of the reported value of $3000. Baldwin was, at last accounts, absent from the city.

=A fire in the works of the Boston Gossamer Rubber Co. (Hyde Park, Mass.) on December 17, was extinguished by the operatives, who were well drilled in the use of the hose, before the arrival of the fire-department. The damage by fire was slight, but the damage by water to goods in course of manufacture was nearly $8000, which was covered by insurance.

=George Pierce, superintendent of the factory of the Kleinert Rubber Co. (College Point, L. I.), lately fell down the stairs in his house, receiving severe internal injuries.

=John A. C. Hammill, who lately resigned his position with the National India Rubber Co. (Bristol, R. I.), has gone to Liverpool as superintendent of the Liverpool Rubber Co., Limited, on a contract for five years. The Liverpool company date from 1859 and manufacture rubber footwear and mechanical goods.

=Mr. G. B. Widner, manager of the Pacific Rubber Co. (New York), is on his way West for his share of the season's mackintosh orders, which by the way he always gets.

=The B. F. Goodrich Co. (Akron, Ohio), whose elegant office buildings were described some time since in THE INDIA RUBBER WORLD, have found it necessary to have more office room. They are therefore putting up another office building the exact duplicate of that now in use, and adjoining it, which will give them room according to their growth.

=Mr. A. F. Townsend, vice-president of the Manhattan Rubber Mfg. Co. (New York), has just returned from a protracted and eminently successful trip among the firm's customers in the West.

=The Akron India Rubber Co. start on February 1st. The machinery now in place consists of 1 washer, 4 grinders, 1 calender, and several presses. It is said that they have already booked orders enough on tires to run their factory for six months.

=President Converse, of the Boston Rubber Shoe Co., recently contributed to the relief-work fund of the E. S. Converse lodge of Masons, at Malden, Mass., a check for $5000.

=The Manhattan Rubber Mfg. Co. (New York) are the proud possessors of a gold medal awarded them by the directors of the Atlanta Exposition, where they had a notable exhibit of mechanical rubber goods.

=Mr. H. E. Wagoner, President of the Monarch Rubber Co. (St. Louis, Mo.), was a recent visitor to Boston and New York, and, as usual, was most cordially received by the trade.

=Mr. N. Lincoln Greene, of the Boston Rubber Co., is just back from a trip among his Western customers.

=The lineal descent of the Providence Rubber Co. from the pioneers in rubber shoe manufacture is thus traced by ex-Gov. Bourn: Geo. S. Bourn, 1842 to 1847; Bourn & Brown, 1847 to 1851; Bourn, Brown & Chaffee, 1851 to 1861; Providence Rubber Co., Inc. 1861, Reorganized 1894.

=The Cleveland Rubber Works of the Mechanical Rubber Co. are putting up another office building similar to that which they now occupy.

=Mr. F. W. Wood, secretary of the Indianapolis Rubber Co., is one of the incorporators of a company to manufacture a high grade of bicycle chains, the plant to be located in Indianapolis, Ind.

=A Christmas present which the office force of THE INDIA RUBBER WORLD fully appreciated was a handsome box containing a gross of fine pencils from the Jos. Dixon Co. of Jersey City, N. J.

=Mr. A. D. Warner, superintendent of the Wales-Goodyear Co. (Naugatuck, Ct.), left for California, Jan. 7th, for a brief winter's vacation.

=Mr. T. H. Deardoff, secretary and treasurer of the Toledo Rubber Co. sends THE INDIA RUBBER WORLD a copy of the magnificent souvenir edition of the *Commercial* of that city. A point of interest in the volume is a fine full-page description of the rubber company with which he is connected.

=A couple of young men recently started on a tour from St. Louis, Mo., to Atlanta, Ga., riding the Vim tires manufactured by the Boston Woven Hose and Rubber Co. They found the roads exceedingly rough, but in spite of that did not open their repair kits, during the entire journey, and the tires were apparently as good at the finish as at the start.

=The Rubber Tire Wheel Co., of Springfield, O., is talking of establishing a branch at Hamilton, Ontario.

=The Gormully and Jeffery Co., manufacturers of the G. & J. tire, have licensed the Canadian Rubber Co. of Montreal as exclusive manufacturers of their tires for the Dominion.

=The Spaulding & Pepper Co., Chicopee Falls, Mass., have perfected a Puncture Preventing Strip, which does not increase the weight nor decrease the resiliency of the tire.

=The Kokomo Rubber Co., of Kokomo, Ind., are out with a high grade single tube tire called the Defender.

=The Spaulding & Pepper Mfg. Co. (Chicopee Falls, Mass.) are equipping their new factory with electric lights, and the Grinnell automatic sprinkler.

=Mr. J. B. Fellows, inventor of the "Twin Comet" revolving sprinkler exhibited at the Atlanta fair, where it attracted most favorable notice. The sprinkler is manufactured by the E. Stebbins Mfg. Co., Springfield, Mass., who are pushing it with characteristic energy.

=The Hartford Rubber Works (Hartford, Conn.) have just added a Slater steam engine to their plant.

=Mr. Bailey, who formerly traveled for the Overman Wheel Co., will sell tires this season for the Spaulding & Pepper Co., Chicopee Falls, Mass.

=Mr. William Keyes of the firm of Prescott Bros. (Boston) has purchased the interest of Mr. John Prescott and is therefore now owner of the business. Mr. Prescott, who has been out of health, will go South for recuperation.

=The new factory of the B. F. Goodrich Co. (Akron, Ohio), which will be devoted to the specialties department will contain for rubber machinery six 16×40 mixers, one extra large grinder, a calender of special pattern, and numbers of lesser machines together with a separate power plant for running them.

=The G. M. Williams Co. (New London, Ct.) have added a rubber department to their store and now carry mechanical goods and clothing.

=Mr. Walter A. Clapp, well known throughout the Northern Atlantic States, has been appointed New England manager of the mackintosh department of the Boston Rubber Co.

=The Whitman Barnes Co. (Akron, Ohio) have put in rubber machinery to manufacture the Gibbs' cushioned horseshoe which they control. The plant necessary for this is not a large one, the machinery consisting of a washer, two 16×36 grinders, and one seven plate hydraulic press, with accumulator.

=Mr. Baxter, formerly with the Metropolitan Rubber Co. will travel for the Pacific Rubber Co. for '96.

=An Italian unbuttoned a mackintosh from its form in front of the store of the Hope Rubber Co. (Providence, R. I.) and was making off with it when he was arrested. From the covetous eyes cast upon the elegant mackintoshes of to-day one might suspect that this sort of thing would happen very frequently were it not for unpleasant consequences, and but a few short years ago scores of people wouldn't think of wearing them. How ideas change!

=Mr. Edw. F. Bragg, sales agent for the Farrel Foundry & Machine Co., has just returned from a trip among the rubber mills to the west of us taking orders for rubber machinery.

=Messrs R. Farrel & Co. (Boston) advise THE INDIA RUBBER WORLD that they have a well equipped rubber factory at Hyde Park, Mass., where they manufacture mackintoshes, and specialties in waterproof goods. They are also in a position to do proofing for the trade.

=Geo. B. Scott & Co. (New York) have removed to the Kemble building, 15 Whitehall street. They handle all kinds of crude rubber, and are also doing a good business in reclaimed rubber and rubber cements.

=A new work on India-rubber and Gutta Percha to be published for subscribers only, by C. Purcell Taylor, D. Sc., of England, is announced to appear in February.

=The article in this issue of THE INDIA RUBBER WORLD by Prof. S. P. Sharples, on "The Rule of Thumb in Rubber Factories," contains many truths that should appeal to every rubber manufacturer.

=It will interest certain in the rubber trade to know that at a recent meeting of the American Hand Sewed Shoe Co. (Providence, R. I.), the gratifying report was made that all outstanding accounts against the company had been paid in full.

=At the annual meeting of the stockholders of the Boston Belting Co., the following officers were re-elected: Directors, William S. Eaton, James Bennett Forsyth, Geo. A. Miner, Jas. Pierce, I. H. D. Smith, Geo. Whitney, Geo. H. Forsyth; Treas., I. H. D. Smith; Clerk, Edw. Upham; Auditors, Freeman A. Smith, Thos. Lang.

=The Diamond Rubber Co. (Akron, Ohio) are making quite a line of specialties in rubber, in addition to their large tire business.

=The Boston Woven Hose & Rubber Co. are employing more than a thousand hands and have orders far ahead.

=A note of interest in the new catalogue of the New York Belting and Packing Co., Ltd., is that it is estimated that there are in use in the fire-departments in the United States in cotton, rubber, and other kinds of fire-hose not less than 9,000,000 feet.

=The Berlin Iron Bridge Co. (East Berlin, Conn.) have just completed for the H. W. Johns Manufacturing Co., in Brooklyn, a new dryer-house, built entirely of steel.

=The Indiana Rubber and Insulated Wire Co. (Jonesboro, Ind.) closed down during the last week in December in order to take stock.

=The B. F. Goodrich Co. (Akron, Ohio) invested more than $100,000 in new buildings during 1895. After the completion of the structures now under way they will probably defer any further building for several months.

=The board of trade of Fall River, Mass., have under consideration a proposition in relation to the establishment there of a rubber-factory, from Bristol, R. I., from a man who has been identified with the rubber industry for nearly a score of years. He offers to put $10,000 into the business.

=The Malachite Rubber Specialty Co. have been incorporated at Newark, N. J., with $10,000 capital, but business is to be commenced with $1000. William D. Gibby, Frank H. Summer, and Egbert J. Tambly are the incorporators.

=An assignment has been made by Charles A. Ray, doing business at Brockton, Mass., as the Brockton Rubber Co., to William J. Cable, for the benefit of creditors. It is said that Mr. Ray's trouble is due to taking an interest in outside business.

=In the "Phœnix" factory of the Goodyear's India Rubber Glove Manufacturing Co. (Naugatuck, Conn.) more hands were employed last year than in 1894, more goods were manufactured, and much of the machinery was run night and day.

=The employees of the Monarch Rubber Co. (Campello, Mass.) were entertained during the holidays by Manager John T. Robinson, by an evening at bowling, followed by supper and dancing.

=A new rubber-shoe factory is going up in Philadelphia, at the southeast corner of Schuylkill avenue and Reed street, for which Joseph D. Ellis is contractor. The foundations have been laid for a three-story building, 54.4×203.8 feet. It is understood that it is to be occupied by George Watkinson, president of the Colchester Rubber Co. Rowland R. Gardner, lately in the employ of the National India Rubber Co. (Bristol, R. I.), has accepted the position of superintendent.

=Coupons due on January 1, 1896, on the first-mortgage gold bonds of the Mechanical Rubber Co. were payable on and after that date at the office of the Knickerbocker Trust Co., New York.

=The Peters Rubber and Supply Co. (St. Louis) have made an assignment for the benefit of creditors to J. Hugo Grimm. He is reported as stating that the assets of the concern, including $10,000 outstanding accounts, will be from $55,000 to $60,000, with liabilities of over $55,000, not including the capital stock. Charles G. Peters, president of the company, died at his home in St. Louis, early on Thursday, December 26, and the assignment was made the next day.

=David Scoville, of Norfolk, Conn., has gone to Chicago to take charge of the office there of the Hartford Rubber Works Co.

=C. W. Martin, rubber-stamp manufacturers in Chicago, have made an assignment to Frank L. Grant—assets, $1500; liabilities, $2000.

=Gen. Joseph M. Jean writes from Cayenne, where he is getting into shape the work of the Franco-American Rubber Co. that the 62,000 acres of Balata lands on which he formerly held a concession have become the property of the company in fee simple, and that the number of Balata and India-rubber trees is even greater than was at first reported. He has found as many as fifty *Hevea Guyanensis* trees on an acre.

=The English consul at Pará, Mr. Eduard Kanthack, who is connected with R. F. Sears & Co., and who was interviewed by THE INDIA RUBBER WORLD last spring while on his way to Europe, has arrived again at Pará, accompanied by Mrs. Kanthack.

=The Rubber Step Manufacturing Co. (Exeter, N. H.), having outgrown the factory occupied by them for some time past, have lately built a new one, better suited for their purposes. The old factory has already been occupied by a firm of shoe-manufacturers, under a five-year lease. The Rubber Step company have recently added to their catalogue a tally-ho or break step, which is meeting an encouraging sale.

=The Boston Rubber Shoe Co. have purchased the last-factory of Howard & Frohock, at Edgeworth, Mass., with the intention, it is reported, of manufacturing all the lasts needed in their business hereafter. The property purchased adjoins the shoe company's Edgeworth factory.

=Mr. George A. Lewis, president of the Goodyear's Metallic Rubber Shoe Co. (Naugatuck, Conn.), accompanied by Mrs Lewis, is spending the winter in California. They expect to spend next summer in Europe.

=H. G. Wheeler, of the Marlboro (Mass.) Rubber Co., recently returned from a tour of the far South in the interests of the company, going as far as Texas. The company have leased a store at St. Augustine, Fla., which will be stocked with bicycles and repairing facilities.

=Charles L. Johnson is the author of a chapter on the India-rubber industry in an elaborate work entitled "One Hundred Years of American Commerce," now in press, in commemoration of the centennial of the *New York Commercial and Shipping List*. The chapter on bicycles is signed Albert A. Pope. The editor of the volume is Chauncey M. Depew.

=The report that the Westinghouse Co. are to erect a rubber factory at Wilmerding, Pa., is an error. They are to build a *buffer* factory, that is buffers for cars, which doubtless the cause of the erroneous report.

=Mr. H. E. Converse, manager of the Boston Rubber Shoe Co., as Fire Commissioner of the city of Malden, has the best equipped fire wagon imaginable. He personally attends most of the fires and by his energy and interest is a potent factor as a property saver.

=The annual general meeting of the stockholders of the Mineralized Rubber Co. will be held at No. 18 Cliff street, New York, at 12 M., January 13, 1896.

=By mutual consent the firm of Lewis & Pike was dissolved on January 1. This firm was formed about six years ago as a commission house for the sale of felt boots, chiefly those manufactured by the Medford Mfg. Co. The goods of that company will be sold direct hereafter through its treasurer, Mr. Chester J. Pike. The firm of Lewis & Pike consisted of Geo. A. Lewis, Charles L. Johnson and Chester J. Pike.

=The new hose room of the Peerless Rubber Mfg. Co. (New Durham, N. J.) is a monster room, 236 ft. long, 42 ft. wide, and can work six gangs of hose-makers. At one end are two large 53 ft. vulcanizers.

=Mr. G. L. Hadley, a well known pneumatic tire salesman will travel for the Spaulding & Pepper Co., Chicopee Falls, Mass., this year.

=Mr. John N. Gardner, manager of the defunct Federal Rubber & Supply Co., Boston, was recently arrested in Providence, on charge of appropriating $750 belonging to the Home Rubber Co., Trenton, N. J.

=Mr. C. A. Rosenberg, formerly with the Columbia Rubber Co. (Boston), has accepted a position with the Boston Rubber Co., for whom he will travel on his old territory.

=Seaman Klous, proprietor of the Boston Gossamer Rubber Co., gave each of the heads of departments in his Hyde Park factory, a crisp ten dollar note as a Christmas present.

=B. F. Jaquith, for several years a large rubber boot and shoe dealer at Des Moines, Ia., has sold out to A. B. George & Co., who will continue the business, making a specialty of the Wales-Goodyear lines. Mr. George was formerly at the head of the A. B. George Shoe Co., of Chicago. The sales of the Des Moines house during the last week of November were the largest for any week in its history. It is understood that the sales of rubbers throughout Iowa this season have been unusually large.

=The chief of the fire-department of Atlanta, Ga., has been supplied with a wagon equipped with pneumatic tires manufactured by the Hartford Rubber Works Co.

REVIEW OF THE INDIA-RUBBER MARKET.

THREE considerations may be pointed to as having influenced to a greater or less extent the condition of the India-rubber market during the past month, which has closed with somewhat lower quotations than at its beginning. First in importance is the continued arrival at Pará of rubber on a scale unprecedentedly large, which promises to be maintained for the season, indicating an increase of 5 per cent. over last year's crop. Visible supplies of Amazon rubber had become so small, however, that not even the unusually heavy output from Pará would have served to depress prices to the extent noted below but for the stagnation which has overcome certain branches of the manufacturing interests, due to weather unfavorable for the sale of goods. A third factor in the situation —although it may be, after all, chiefly a matter of conjecture—is the effect upon business produced by the message of President Cleveland on the Venezuelan question. Strictly speaking, the so-called panic following the publication of this message was confined to Wall street, and the reported losses to the country to a fall in paper values, while the real wealth of the country remained the same at the close of the flurry as at its commencement. But it cannot be doubted that an indirect effect of the excitement was to restrict credits and tighten rates for money —a condition unfavorable to manufacturers already disturbed by the accumulation upon their hands of unsold products.

The latest quotations in the New York market are:

Pará, fine, new t a...	74	@76	Benguela.....	47	@48
Pará, fine, old.....	none here		Congo Ball.....	36	@40
Pará, coarse, new t a	45	@55	Cameroon Ball.....	38	@39
Caucho (Peruvian) strip	45	@46	Flake, Ord and Lump..	24	@25
Caucho (Peruvian) ball	51	@52	Accra Flake.....	15	@18
Mangabeira, sheet....	40	@43	Liberian Flake.....	29	@30
Esmeralda, sausage..	50	@51	Primest Pinky Madr...	59	@61
Guayaquil, strip.....	36	@43	Madagascar, black.....	43	@45
Nicaragua, scrap	48	@50	Borneo.....	26	@40
Nicaragua, sheet....	46	@47	Gutta-percha, fine grade		1.30
Thimbles.....	35	@36	Gutta-percha, medium..		1.00
Tongues.....	37	@39	Gutta-percha, hard white		85
Sierra Leone.....	25	@42			

The market for rubber scrap is without particular feature, except that lower quotations may be made than a month ago. Buying is light, however, and holders disposed to be firm. In carload lots 5 cents for old shoes would probably be a fair quotation, with corresponding rates for smaller quantities.

PRICES FOR DECEMBER (ISLAND RUBBER).

	1895.		1894.		1893.	
	Fine.	Coarse.	Fine.	Coarse.	Fine.	Coarse.
First	75	45	69	48	68	48
Highest	76	46½	73	51	68	48
Lowest	75	45	69	48	67	47
Last	75	45	73	51	67	47

Albert B. Beers, successor to Simpson & Beers, brokers in crude India-rubber and commercial paper (New York), advises us as follows:

"During December there has been very little demand for commercial paper, most of the city and out-of-town banks being out of the market, and what little paper has been taken was mostly at 6@7 per cent. for the best single and double names. Usually, during the last half of December, there is little demand for paper, but this month the banks have been unusually stringent and cautious on account of the rather unsettled outlook of financial matters, especially relating to the government's policy, and the prospect of a large issue of bonds which would absorb considerable of their funds. By the middle of January we hope to see an easier money market and better demand for paper."

The statistical position of Pará rubber in New York and elsewhere is as follows, the figures expressing tons of 1000 kilograms:

	Fine and Medium.	Coarse.	Totals.		Totals 1894.	Totals 1893.
Stock, November 30	209	24	233	=	941	590
Arrivals, December	804	276	1080	=	1048	1494
Aggregating	1013	300	1313	=	1989	2084
Deliveries, December	772	273	1045	=	908	1445
Stock, December 31	241	27	268	=	1081	639

	1895.	1894.	1893.
Stock in England, December 31	512	610	793
Deliveries in England, December	550	575	594
Pará receipts, December	2600	2090	3040
Stock in Pará, December 31	270	480	1395
World's supply Dec. 31 (excluding Caucho)	3145	3677	3832
Pará receipts since July 1	10,280	9200	10,265

THE INDIA RUBBER WORLD has been favored with a copy of Simpson & Beers's annual statistical sheet of India-rubber importations. According to their record the United States received last year 22,160,000 pounds of Pará rubber against 21,617,000 pounds in 1894.

IMPORTS FROM PARA.

THE receipts of India-rubber direct from Pará and Manáos at the port of New York since our last publication are reported in detail below, the figures referring to pounds:

December 13.—By the steamer *Grangense*, from Manáos and Pará:

	Fine.	Medium.	Coarse.	Caucho.	Total.
New York Commercial Co.	290,900	44,900	66,400	900	=403,100
Reimers & Meyer	143,800	53,400	73,400	44,100	=314,700
Lawrence Johnson & Co	139,200	35,600	51,000	.....	=225,800
Joseph Banigan	53,900	24,200	26,400	.....	=104,500
Boston Rubber Shoe Co	54,000	25,000	22,600	.....	=101,600
Otto G. Mayer & Co	24,200	17,500	34,800	.....	= 76,500
Shipton Green	36,500	8,200	11,800	.....	= 56,500
Kunhardt & Co	43,200	12,900	.....	.....	= 56,100
C. Ahrenfeldt & Son	10,600	1,400	1,800	.....	= 13,800
George G. Cowl	4,300	700	1,600	.....	= 6,600
P. Lima	3,200	400	1,700	.....	= 5,300
Totals	803,800	224,200	291,500	45,000	=1,364,500

December 24.—By the steamer *Cearense*, from Pará:

New York Commercial Co.	261,300	40,000	83,200	11,500	=396,000
Reimers & Meyer	83,300	23,500	60,000	.....	=166,800
Lawrence Johnson & Co	66,400	10,300	48,000	.....	=124,700
Otto G. Mayer & Co	.....	.....	33,000	.....	= 33,000
P. Lima	4,600	400	3,000	.....	= 8,000
Totals	415,600	74,200	227,200	11,500	=728,500

January 2.—By the steamer *Hubert*, from Manáos and Pará:

Reimers & Meyer	255,700	58,200	146,300	77,600	=537,800
New York Commercial Co.	288,200	58,100	80,200	1,200	=427,700
C. Ahrenfeldt & Son	37,900	.....	31,700	39,300	=108,900
Lawrence Johnson & Co	40,800	7,200	30,000	32,100	=110,100
Boston Rubber Shoe Co	45,300	7,100	9,800	....	= 62,200
Otto G. Mayer & Co	18,100	3,100	10,500	.....	= 31,700
Shipton Green	13,400	1,400	4,200	700	= 19,700
Joseph Banigan	7,800	1,100	8,500	....	= 17,400
P. Lima	5,500	400	3,300	.....	= 9,200
G. Amsinck & Co	.....	.....	.....	4,000	= 4,000
George G. Cowl	4,600	400	800	.....	= 5,800
Totals	717,300	137,000	325,300	154,900	=1,334,500

December Imports from Pará	3,778,500
November Imports	2,195,600
October Imports	1,523,700
September Imports	1,335,900
August Imports	766,500
July Imports	666,200
June Imports	1,030,100
May Imports	1,651,400
April Imports	2,156,400
March Imports	3,611,700
February Imports	2,274,400
January Imports	2,86),500

PARA IMPORTS VIA EUROPE.

December 6.—By the steamer *Britannic*, from Liverpool:

George A. Alden & Co. (Fine)	10,500

December 7.—By the steamer *Etruria*, from Liverpool:

Reimers & Meyer (Fine)	11,000

December 28.—By the steamer *Lucania*, from Liverpool:

For Boston (Fine)	5,500

OTHER NEW YORK ARRIVALS.

BELOW will be found in detail the imports at New York during December, 1895, of India-rubber from Mexico, Central America, and South America, other than Pará grades; also, arrivals at New York of African and East Indian sorts:

CENTRALS.

DEC. 1.—By the *Spero*=Greytown, etc.:

	POUNDS.
A. P. Strout	4,500
Andreas & Co	4,000
G. Amsinck & Co	3,500
K. Mandell & Co	500
Eggers & Heinlein	600
Jose Agostini	200
Total	13,300

DEC. 2.—By the *Mobile*=London:

Earle Brothers	1,800

DEC. 2.—By the *Finance*=Colon:

Hirzel, Feltman & Co	11,350
I. Brandon & Bros	6,780
Frame Alston & Co	6,500
G. Amsinck & Co	4,530
A. Santos & Co	2,295
New York Commercial Co	2,000
Roldan & Van Sickle	1,900
Flint, Eddy & Co	2,400
Dumarest & Co	1,660
A. M. Capen's Sons	1,030
G. R. Cottrell & Co	695
Total	41,200

DEC. 3.—By the *Colombia*=Colon:

Munoz & Espriella	786
K. Mandell & Co	400
Eggers & Heinlein	218
G. R. Cottrell & Co	127
Total	1,531

DEC. 3.—By the *Ailsa*=Cartagena:

D. A de Lima & Co	1,500
Punderford & Co	500
Total	2,000

DEC. 3.—By the *Knickerbocker*=New Orleans:

F. H. Robinson	3,000

DEC. 4.—By the *City of Washington*=Mexico:

E. Steiger & Co	1,500
Graham, Hinckley & Co	1,000
L. Monjo, Jr. & Co	300
H. Marquardt & Co	200
Total	3,000

DEC. 7.—By the *Etruria*=Liverpool:

Reimers & Meyer	6,600

DEC. 8.—By the *Wordsworth*=Bahia:

Reimers & Meyer	6,600

DEC. 10.—By the *El Sud*=New Orleans:

Albert T. Morse	10,500

DEC. 12.—By the *Yucatan*=Mexico:

Graham, Hinckley & Co	700
Seeger & Guernsey Co	200
Hughes & Co.	300
H. Marquardt & Co	300
Total	1,500

DEC. 13.—By the *Allianca*=Colon:

Hirzel Feltman & Co	2,700
Maitland, Phelps & Co.	2,100
Piza Nephews & Co	1,600
I. Brandon & Bros	1,320
G. R. Cottrell & Co	220
Total	8,000

DEC. 16.—By the *Ciudad Condal*=Vera Cruz:

Graham, Hinckley & Co	2,000
H. Marquardt & Co	500
A. S. Lascelles & Co	200
Total	2,700

DEC. 17.—By the *El Dorado*=New Orleans:

Albert T. Morse	5,000
F. H. Robinson	2,000
Total	7,000

DEC. 17.—By the *Newport*=Colon:

J. M. Ceballos & Co	5,588
Hoadley & Co	4,019
Jacob Baiz	4,304
Munoz & Espriella	2,300
Samper & Juinenez	1,840
G. Amsinck & Co	1,713
Ellinger Bros	968
W. Loaiza & Co	482
F. Probst & Co	300
Flint, Eddy & Co	428
G. R. Cottrell & Co	200
H. Marquardt & Co	271
—— Boyle	165
A. P. Strout	150
Total	22,634

DEC. 17.—By the *Adirondack*=Cartagena, etc.:

Kunhardt & Co	2,500
A. N. Rotholz & Co	1,000
Total	3,500

DEC. 18.—By the *El Mar*=New Orleans:

Albert T. Morse	17,500
W. H. Crossman & Bro	1,500
Total	19,000

DEC. 18.—By the *Leibnitz*=Bahia:

Reimers & Meyer	7,500
Allerton D. Hitch	800
Total	8,300

DEC. 19.—By the *Orizaba*=Mexico:

H. Marquardt & Co	500

DEC. 21.—By the *Advance*=Colon:

A. Santos & Co	8,820
New York Commercial Co	8,100
Roldan & Van Sickle	5,175
I. Brandon & Bros.	4,616
G. Amsinck & Co.	4,280
Hirzel Feltman & Co.	4,207
Wallace Müller & Co	3,800
Maitland, Phelps & Co	1,600
Frame Alston & Co	1,490
Kunhardt & Co	900
W. R. Grace & Co	730
Dumarest & Co	360
J. M. Ceballos & Co	240
L. G. Tomas	100
Total	44,418

DEC. 22.—By the *Umbria*=Liverpool:

Reimers & Meyer	6,000

DEC. 26.—By the *Alleghany*=Savanilla:

Punderford & Co	800

DEC. 30.—By the *Ailsa*=Cartagena:

Flint, Eddy & Co	2,000
E. Cortes & Co. (London)	2,000
To Order	2,000
Punderford & Co	1,800
Lanman & Kemp	1,500
Schultz & Ruckgaber	1,000
Maitland, Phelps & Co	500
Total	10,800

Total Centrals for December	234,383
Total for November	265,925
Total for October	290,161
Total for September	273,553
Total for August	259,101
Total for July	183,956
Total for June	194,270
Total for May	317,000
Total for April	168,072
Total for March	290,243
Total for February	239,251
Total for January	341,029

AFRICANS.

DEC. 2.—By the *Nomadic*=Liverpool:

	POUNDS.
Joseph Cantor	8,000

DEC. 6.—By the *Britannic*=Liverpool:

George A. Alden & Co	2,60

DEC. 7.—By the *St. Louis*=Southampton:

George A. Alden & Co	2,300

DEC. 7.—By the *Etruria*=Liverpool:

George A. Alden & Co	16,100
Reimers & Meyer	24,000
Otto G. Mayer & Co	6,000
Total	46,100

DEC. 9.—By the *La Gascogne*=Havre:

Reimers & Meyer	27,000

DEC. 11.—By the *Georgic*=Liverpool:

H. H. Smythe	7,400

DEC. 14.—By the *Campania*=Liverpool:

George A. Alden & Co	22,500
Boston Rubber Shoe Co	14,300
Total	36,800

DEC. 21.—By the *America*=London:

George Ropes	3,200

DEC. 20.—By the *Moravia*=Hamburg:

Reimers & Meyer	29,500
Albert T. Morse	11,200
Total	40,700

DEC. 21.—By the *Paris*=Southampton:

George A. Alden & Co	5,000

DEC. 22.—By the *Umbria*=Liverpool:

George A. Alden & Co	96,2 0
William A. Brown & Co	11 000
Reimers & Meyer	15.000
Boston Rubber Shoe Co	11.300
Total	133,500

DEC. 22.—By the *Peninsula*=Lisbon:

George A. Alden & Co	97,500
Reimers & Meyer	18,000
Total	115 500

DEC. 24.—By the *Patria*=Hamburg:

Geo. A. Alden & Co	9,400

DEC. 26.—By the *Cevic*=Liverpool:

George A. Alden & Co.	6,300
William A. Brown & Co	5,000
Total	11,300

DEC. 26.—By the *Teutonic*=Liverpool:

George A. Alden & Co	2,000

DEC. 29.—By the *Prussia*=Hamburg:

Albert T. Morse	12,500

Total Africans for December	463 300
Total for November	761,000
Total for October	760,400
Total for September	794,800
Total for August	524,400
Total for July	516,400
Total for June	322 600
Total for May	884.100
Total for April	367,200
Total for March	374,554
Total for February	441,500
Total for January	582,000

EAST INDIAN.

DEC. 11.—By the *Massachusetts*=London:

	POUNDS.
George A. Alden & Co	54,600
Reimers & Meyer	59,000
Total	113,600

DEC. 16.—By the *Bracmar*=Singapore:

Reimers & Meyer	143,100
George A. Alden & Co	54,800
Windmuller & Roelker	55,000
Total	252,900

DEC. 21.—By the *America*=London:

Gutta Percha and Rubber Manufacturing Co.	2,000
Otto G. Mayer & Co	12,000
Total	14 000

DEC. 21.—By the *Paris*=Southampton:

Reimers & Meyer	4,900

DEC. 30.—By the *Spain*=London:

Reimers & Meyer	10,000

DEC. 31.—By the *Richmond Hill*=London:

Gutta Percha and Rubber Manufacturing Co.	6,100

Total East Indians for December	401,900
Total for November	501,600
Total for October	420,300
Total for September	589,900
Total for August	253,100
Total for July	305,400
Total for June	241,100
Total for May	118,900
Total for April	451,000
Total for March	487,300
Total for February	100,000
Total for January	28,800

RECAPITULATION.

	POUNDS.
Pará—direct imports	3,778,500
Pará—via Europe	27,000
Centrals	234,383
Africans	463,300
East Indian	401,900
Total at New York for December	4,905,083
Total for November	4,056,825
Total for October	3,575,061
Total for September	3,277,800
Total for August	1,831,101
Total for July	1,686,956
Total for June	1,788,070
Total for May	3,971,400
Total for April	3,142,672
Total for March	4,858,383
Total for February	3,080,151
Total for January	4,038,229

BOSTON ARRIVALS.

DEC. 1.—By the *Scythia*=Liverpool:

	POUNDS.
Reimers & Meyer—Africans	9,500

DEC. 12.—By the *Sachem*=Liverpool:

Reimers & Meyer—Africans	5,000

DEC. 12.—By the *Hindoo*=London:

George A. Alden & Co.—East Indian	1,500

DEC. 19.—By the *Sagamore*=Liverpool:

George A. Alden & Co.—Africans	5,500
Sgal & Co.—Africans	11,200
Sgal & Co.—Fine Pará	12,000

DEC. 24.—By the *Catalonia*=Liverpool:

George A. Alden & Co.—Africans	6,000

DEC. 24.—By the *Armenian*=Liverpool:

To Order—African	9,000

DEC 30.—By the *Samaria*=Liverpool:

George A. Alden & Co.—Africans	13,400

DEC. 31.—By the *Kansas*=Liverpool:

Reimers & Meyer—Africans	8,000
Total at Boston for December	81,200
Total for November	145,500
Total for October	254,900
Total for September	214,500
Total for August	413,900
Total for July	180,260
Total for June	185,920
Total for May	129,620
Total for April	138,560
Total for March	106,900
Total for February	127,100
Total for January	243,950

NEW ORLEANS.

DECEMBER.

	POUNDS.		VALUE.
Nicaragua	69,7	61	$29,417

TRADE MARKS FOR MECHANICAL RUBBER GOODS.

TRADE-MARK names among manufacturers of mechanical rubber goods during the last few years has become of great value. Several of the large houses have exchanged lists of their names, with a view to preventing duplicates in the future, and of agreeing upon the rights of those now existing. These with their permission we print. We should like to see others included in this record, and if they will send their lists to THE INDIA RUBBER WORLD we shall publish them with pleasure. In case the same trade-mark is used by more than one company, there is usually an agreement that the name shall cover articles of manufacture which are not in any way similar. To avoid needless repetition of firms names the following abbreviations have been employed. B. B. Co.—Boston Belting Co , B. W. H. & R. Co.—Boston Woven Hose & Rubber Co., B. F. G. Co.—B. F. Goodrich Co , A. R. W.—Akron Rubber Works, C. R. Co.—Cleveland Rubber Co., F. F. H. Co.—Fabric Fire Hose Co., G. P. & R. Mfg. Co —Gutta Percha & Rubber Mfg. Co., E. F. H. Co.—Eureka Fire Hose Co., K. R. W.—Keystone Rubber Works, N. Y. B. & P. Co.—New York Belting & Packing Co., N. J. C. S. & R. Co.—New Jersey Car Spring & Rubber Co., P. R. Mfg. Co.—Peerless Rubber Mfg. Co., M. R. Co. Chi.—Mechanical Rubber Co. Chicago, R. R. Co.—Revere Rubber Co., H. R Co.—Home Rubber Co.

Acequia	R. R. Co.
Acme	" " "
Acme	P. R. Mfg. Co.
Afmic	N. Y. B. & P. Co.
Agr. Wired	C. R. Co.
Ajax	G. P. & R. Mfg. Co.
Ajax	P. R. Mfg. Co.
Akron A	A. R. W; B. F. G. Co.
Akron B	" " " " " " " "
Akron R. W. &c	" " " " " " " "
Aluminum	C. R. Co.
Alpha	B. W. H. & R. Co.
Amazon	B. B. Co.
Amazon	K. R. W.
Amazon	C. R. Co.
American Jacket	R. R. Co.
American Chief	N. J. C. S. & R. Co.
Am. Underwriters	B. B. Co.
Antimony Packing	N. J. C. S. & R. Co.
Antimony	B. B. Co.
Anaconda	P. R. Mfg. Co.
Arrow	N. J. C. S. & R. Co.
Arrow	F. F. H. Co.
Artesian	A. R. W ; B. F. G. Co.
Arm Hammer	F. F. H. Co.
Asbago	G. P. & R. Mfg. Co.
Asbesteros	B. W. H. & R. Co.
Azurene	" " " " " " "
A. I	N. J. C. S. & R. Co.
Baker Fabric	G. P. & R. Mfg. Co
Bay State	B. W. H. & R. C
Bay State	B. B. Co.
Banner	" " "
Bessemer—Engine	G. P. & R. Mfg. Co.
Beacon	R. R. Co.
Bessemer	" " "
Black Seal	H. R. Co.
Blue Line	" " "
Black Line	B. W. H. & R. Co.
Blue Brand	" " " " " " "
Black Diamond	B. B. Co.
Boston Fire Jacket	B. W. H. & R. Co.
Boston Jacket Fire	B. B. Co.
Boston	" " "
Bulls Eye	R. R. Co.
Burro	" " "
Burr	B. W. H. & R. Co.
Bull Dog	" " " " " "
Buckeye	C. R. Co.
B. W. H	B. W. H. & R. Co.
Carbon	N. Y. B. & P. Co.
Cascade	A. R. W ; B. F. G. Co.
Caterpiller	G. P. & R. Mfg. Co.
Cardinal	B. W. H. & R. Co.
Calumet	B. B. Co.
Calumet	M. R. Co. Chi.
Ceres	B. W. H & R. Co.
Chicago	M. R. Co. Chi.
Champion	B. B. Co.
Climax	R. R. Co.
Commercia	H. R. Co.
" Competition "—followed by the letters—V. JJ. J. : JJ & XX. J & Y. Y. MY. OD. BP. WR. B. F. CT. HV.	G. P. & R. Mfg. Co.
Competition	C. R. Co.
Common Sense	M. R. Co. Chi.
Columbian	N. J. C. S. & R. Co.
Columbian	M. R. Co. Chi.
Columbia	K. R. W
Colwen Steam	B. W. H. & R. Co.
Colorado	K. R. W.
Crescent	G. P. & R. Mfg. Co
Crescent	B. B. Co.
Crescent	R. R. Co.
Cross Stitch	B. W. H. & R. Co.
Crimson Line	B. B. Co.
Crown	" " "
Crown	C. R. Co.
Cumberland	B. B. Co.
Defender	F. F. H. Co.
Deluge	A. R. W ; B. F. G. Co.
Diamond	H. R. Co.
Dido	B. W. H. & R. Co.
Dolphin	R. R. Co.
Double Diamond	N. Y. B. & P. Co.
Double Blue Line	C. R. Co.
Dragon	N. Y. B. & P. Co.
Duplex	N. J. C. S. & R. Co
Eagle	E. F. H. Co.
Eagle	B. B. Co.
Eagle	R. R. Co.
Eagle	N. J. C. S. & R. Co.
Eagle with Shield and Arrow	A. R. W; B. F. G. Co.
Eclipse	R. R Co
Eclipse	K. R. W.
Eclipse	P R. Mfg. Co.
Eden	R. R Co.
Elastene	H. R Co.
Elastic	B B Co
Elk's Head	P F H Co.
Elephant	M. R Co. Chi.
Emperor	R R Co.
Emerald	N J C S & R Co.
Eureka	E. F. H. C.
Eureka	B. B. Co.
Evertite	B. W. H. & R. Co.
Every Day	M. R. Co. Chi.
Excelsior	B. B. Co.
Extra	N. J. C. S. & R. Co.
Extra Warranted	A. R. W.; B. F. G. Co.
Fairmount	B. B. Co.
Fearless	P. R. Mfg. Co.
Featherweight	B. W. H. & R. Co.
Fine Pará	B. B. Co.
Fire King	B. W. H. & R. Co.
Firebrand	R. R. Co.
Flexite	" " "
Four Ace	" " "
Friction Cover	G. P. & R. Mfg. Co.
Frictioned Surface	B. B. Co.
Granite	R. R. Co.
Game Cock	B. W. H. & R. Co.
Gazelle	M. R. Co. Chi.
Geneva	" " " "
Geyser	A. R. W; B. F. G. Co.
Geyser	K. R. W.
Gem	E. F. H. Co.
Gem	M. R. Co. Chi.
Giant	R. R. Co.
Gladiator	N. J. C. S. & R. Co.
Goodrich	A. R. W; B. F. G. Co.
Grip	B. W. H. & R. Co.
Grain King	" " " " " " "
Greyhound	A. R. W; B. F. G. Co.
Grip Wire Bound	G. P. & R. Co.
Green Line	N. J. C. S. & R. Co.
Gulf Stream	" " " " " " "
Harvard	B. W. H. & R. Co.
Hawkeye	R. R. Co.
H C	R. R. Co.
Hero	M. R. Co. Chi.
Hercules	P. R. Mfg. Co.
High Test	B. B. Co.
High Pressure	C. R. Co.
High Grade	" " "
High Pressure	K. R. W.
High Pressure	M. R. Co. Chi
High Pressure	H. R. Co.
Home	H. R. Co.
Horseshoe	F. F. H. Co.
Hudson	N. J. C. S. & R. Co.
Hyperion	C. R. Co.
H (in diamond)	A. R. W; B. F. G. Co.
Insurance	N. J. C. S. & R. Co.
Imperial	G. P. & R. Mfg. Co.
Imperial	B. B. Co.
J. T. S	G. P. & R. Mfg. Co.
Jupiter	B. B. Co.
Jupiter	C. R. Co.
Keystone	R. R. Co.
Keystone	F. F. H. Co.
Keystone	K. R. W.
Knowlton	B. W. H. & R. Co.
Knickerbocker	F. F. H. Co.
Knicker	P. R. Mfg. Co.
Lakeside	P. R. Mfg. Co.
Larchmont	" " "
Leader	B. W. H. & R. Co.
Leatherite	N. Y. B. & P. Co.
Liberty	P. R. Mfg. Co.
Little Giant	R. R. Co.
Litle Giant (Nozzles)	B. W. H. & R. Co.
Maltese Cross	G. P. R. & Mfg. Co.
Maltese Cross—Asbago	" " " " " "
Marine	" " " " " "
Marine	M. R. Co. Chi.
Mastiff	R. R. Co.
Mars	B. W. H. & R. Co.
Malvern	B. W. H. & R. Co.
Metropolitan	N. J. C. S. & R. Co.
Metro	B. W. H. & R. Co.
Milo	" " " " "
Monarch	G. P. & R. Mfg. Co.
Monarch	M. R. Co. Chi.
Mohawk	G. P. & R. Mfg. Co.
Montana	" " " " "
Mogul	R. R. Co.
Mount Vernon	B. W. H. & R. Co.
Murphy	G. P. & R. Mfg. Co
Nassau	G. P. & R. Mfg. Co
Navy Standard	" " " " "
Navy	R. R. Co.
Nautilus	" " "
New Idea	N. J. C. S. & R. Co.
New Method	" " " " "
Neptune	G. P. & R. Mfg. Co.
Neptune	R. R. Co.
Neverslip	B. W. H. & R. Co.
Niagara	B. B. Co.
Newport	P. R. Mfg. Co.
Novelty	G. P. & R. Mfg. Co.
No. 16	M. R. Co. Chi.
No. 229	" " "
N.P.N. (in diamond)	N. Y. B. & P. Co.
Number 6	R. R. Co.
999	A. R. W; B. F. G. Co.
N. F	B. W. H. & R. Co.
O. K	B. W. H. & R. Co.
Old Time	N. J. C. S. & R. Co.
Old Colony	G. P. & R. Mfg. Co.
Old Gold	C. R. Co.
Old Hickory	R. R. Co.
Old Reliable	B. B. Co.
Orange Line	" " "
Oriental	P. R. Mfg. Co.
Our Leader	B. B. Co.
Owl	B. W. H. & R. Co.
Pará	N. Y. B. & P. Co.
Paragon	E. F. H. Co.
Paragon	H. R. Co.
Paramount	B. W. H & R. Co.
Paradise	" " " " " "
Panic	" " " " " "
Parasol	" " " " " "
Patrol J	F. F. H. Co.
Patrol S	" " "
Pearl	N. J. C. S. & R. Co.
Peerless	E. F. H. Co.
Peerless	P. R. Mfg. Co.
Perfection	B. W. H. & R. Co.
Perfect	B. B. Co.
Phœnix	" " "
Pilot	M. R. Co. Chi.
Plain Standard	E. F. H. Co.
Plain Trade	" " " "
Plain Cotton	C. R. Co.
Plain Pará	M. R. Co. Chi.
Plumbago	C. R. Co.
Popular	C. R. Co.
Protective	R. R. Co.
Protection	B. B. Co.
Pyramid BlueStone	G. P. & R. Mfg. Co.
P. & R	R. R. Co.
P. G	" " "
Rainbow	P. R. Mfg. Co.
Rainbow Ribbon	" " " "
Rainbow (diam'nd)	" " " "
Rainbow	E. F. H. Co.
Railroad Standard	A. R. W. B. F. G. Co.
Reliable	N. J. C. S. & R. Co.
Reliable	P. R. Mfg. Co.
Red Jacket	N. J. C. S. & R. Co.
Rescue	G. P. & R. Mfg. Co.
Red Strip	" " " " "
Red Cross	E. F. H. Co.
Red Ball	" " "
Red Brand	K. R. W.
Revere	R. R. Co.
Red Crescent	" " "
Red & Blue Line	B. B. Co.
Red & Black Line	" " "
Red & Green Line	" " "
Red & Orange	" " "
Reliance	" " "
Reliance	P. R. Mfg. Co.
Ridgewood	G. P. & R. Mfg. Co.
Ribbon	P. R. Mfg. Co.
Roxbury	B. B. Co.
Royal	C. R. Co.
Royal	P. R. Mfg. Co.
Ruby	N. Y. B & P. Co.
S. A. P	R. R. Co.
Saturn	B. B. Co.
Saturn	C. R. Co.
Safety	F. F. H. Co.
Saratoga	P. R. Mfg. Co.
Security	R. R. Co.
Seal	" " "
Seamless & Elastic	B. B. Co.
Shamrock	C. R. Co.
Shawmut	R. R. Co.
Shield High Grade	C. R. Co.
Six Line	N. J. C. S. & R. Co.
Smooth Bore	C. R. Co.
Snake	E. F. H. Co.
Spider	N. Y. B. & P. Co.
Special	N. J. C. S. & R. Co.
Special XX	" " " " " "
Special Standard	H. R. Co.
Specially Constructed Elevator	G. P. & R. Mfg. Co.
Spartan	B. W. H. & R. Co.
S. T	H. R. Co.
Star	N. Y. B. & P. Co.
Staple	N. J. C. S. & R. Co.
Standard	A. R. W. ; B. F. G. Co.
Standard	H. R. Co.
Sterling	C. R. Co.
Sterling	P. R. Mfg. Co.
Star	B. B. Co.
Surprise	E. F. H. Co.
Summit	A. R. W. ; B. F. G. Co.
Superior	B. B. Co.
Superior	M. R. Co. Chi.
Test	N. Y. B. & P. Co.
Tecumseh	A. R. W. ; B. F. G. Co.
Three XXX	G. P. & R. Mfg. Co.
Thistle	B. B. Co.
Tidal Wave	F. F. H. Co.
Tiger	B. W. H & R. Co.
Tiger	H. R. Co.
Tiger	M. R. Co. Chi.
Trojan	E. F. H. Co.
Truck with wings on wheels and end of broken trestle	A. R. W. ; B. F. G. Co.
Trident	R. R. Co.
Trimount	B. B. Co.
U Bet	B. W. H. & R. Co.
Universal	B. B. Co.
Unique	F. F. H. Co.
Uniphite	P. R. Mfg. Co.
U. S	E. F. H. Co.
Usudurian	R. R. Co.
Venus	B. B. Co.
Vernon	M. R. Co. Chi.
Vigilant	R. R. Co.
Vici	B. W. H. & R. Co.
Vim	" " " " "
Victor	C. R. Co.
Victor Shield	" " "
Vulcan	N. Y. B. & P. Co.
Vulcanite	" " " " "
Vulcanite	B. B. Co.
V. Z	R. R. Co.
Wallabout	G. P. & R. Mfg Co.
Watertight	" " " " "
Warranted 2xl	C. R. Co.
Warwick	F. F. H. Co.
Warwick J. W	" " " "
Warwick J. K	" " " "
White Diamond	N. J. C. S. & R. Co.
White Cross	H. R. Co.
White Anchor	A. R. W. ; B. F. G. Co.
Whirlpool	" " " " "
World	H. R. Co.
XX	M. R. Co. Chi.
Yankee	B. W. H. & R. Co.
Zenith	R. R. Co.

Free Want Department.

WANTED—Second-hand rubber-working machinery for a small rubber plant. Must be in good order. Address, J. V. Machinist, Plainfield, N. J. (Dec.)

WANTED.—Half dozen good packing salesmen for the New England States, to handle a first class packing exclusively on commission, or as side line. Must be familiar with the business. Liberal commission. Good man can make big money. Address Packing, care INDIA RUBBER WORLD. (Dec.)

WANTED.—Experienced mechanical rubber goods salesman to sell cotton rubber lined fire hose under unusually advantageous conditions, in New York and the New England States. Address, fully, stating experience, and compensation required, E. H. S., care INDIA RUBBER WORLD. (Dec.)

WANTED.—Position in a rubber factory by a man well acquainted with the manufacture of mechanical rubber goods, such as carriage drills, druggists' sundries, white sheetings, etc Capable superintendent or foreman of department. References. Address, H. B. C., care of INDIA RUBBER WORLD. (Dec.)

WANTED.—Position by traveling man 42 years old, well acquainted with mechanical rubber goods, and some knowledge of druggists' rubber goods. Good references as to character and ability. Prefer traveling for a factory. Address P. D, care of INDIA RUBBER WORLD. (Dec)

WANTED.—First class calender man, who can run electric tape and have compounds for same. Address C. F. S, care of INDIA RUBBER WORLD. (Dec.)

WANTED.—One free roll friction calender; state price and particulars. Address R. F. C, care of INDIA RUBBER WORLD. (Dec.)

A COMPETENT MAN of 25 years' experience in the manufacture of boot and shoe stock, bicycle tires and mechanical rubber goods generally, desires to make a change from present position. Fully competent to take charge of mill room. Address COMPETENT, care of INDIA RUBBER WORLD. (Dec.)

WE WANT to buy a second-hand heater 12 x 3, with truck. Give particulars. Address Heater, care of INDIA RUBBER WORLD. (Dec.)

GOOD OFFICE MAN aged 26, with large rubber manufacturing concern seeks a change, or would invest few hundred dollars in good business. A1 references. Address "Moore," care H. B. Kents, 16 Montgomery Place, Trenton, N. J. (Dec.)

WANTED.—Salesman to handle mechanical rubber goods in Colorado and adjoining States. Mention experience, references and salary wanted. Address The Bogue Lead Co., Denver, Colo (Dec.)

A RUBBER boot and shoe salesman having the acquaintance of the jobbing trade generally, and the retail trade in and about New York, desires a position wherein his services could be made available. Address M., care of INDIA RUBBER WORLD. (Dec.)

SALESMAN identified with manufacturer of bicycle tires, thoroughly acquainted with the trade in New York and New England, desires a position with manufacturer or jobber wherein services could be of value. Address J., care of INDIA RUBBER WORLD. (Dec.)

WANTED.—A young man with experience to superintend the druggist sundry department in a large rubber manufactory. Only capable men need apply. Address Rubber Superintendent, care of INDIA RUBBER WORLD. (Nov.)

WANTED.—A man competent to take the position of Asst. Superintendent in an established rubber factory. A general knowledge of the rubber business and a special knowledge of shoe making essential. To the right man a permanent position, with prospects of advance, guaranteed. State age and experience, and compensation expected. Address L, care of INDIA RUBBER WORLD. (Nov,)

WANTED.—A purchaser for a rubber vulcanizer suitable for hard or soft rubber. Capacity 22 in. × 22 in. × 3½ ft., all covered with asbestos, including pipes and temperature gauge registering up to four hundred degrees above zero. Address Vine, care of INDIA RUBBER WORLD (Nov.)

BALLOON MAKER.—Thoroughly competent man desires a position. Address "Anvil," care of INDIA RUBBER WORLD. (Nov.)

WANTED.—Two practical and competent salesmen to travel in Ohio, Indiana, and Michigan. Men with a knowledge of the general rubber line preferred. State experience, single or married, and salary expected. Address Lakes, care of INDIA RUBBER WORLD. (Nov.)

WANTED.—A single second-hand tubing machine capable of running a core 1¼ inches in diameter. Address L. M. Co., care of INDIA RUBBER WORLD. (Nov.)

A MECHANICAL ENGINEER and expert draughtsman having technical education; shop experience in metal and wood, and an exceptional one, in designing a variety of light and heavy machines, including rubber calenders, presses, grinders, dies, etc., desires a position where is needed an intelligent, hustling, ambitious man, with considerable incentive ability. Highest record and references. Address Roll, care of INDIA RUBBER WORLD. (Nov—2t)

EXPERIENCED SALESMAN in druggist rubber sundries, desires a position with some house where knowledge of goods and trade will be of value. Willing to assume control of branch in any city. Would like to enter the mechanical goods line; preference given to traveling on the road; am a hard worker and thoroughly capable; best of reference. Address "Worker," INDIA RUBBER WORLD office. (Nov)

CREDIT MAN with several years' experience wants position with a rubber company. Record for past six years as to losses on sales ¼ of one per cent. average. Address Courtland, care of INDIA RUBBER WORLD. (Nov.)

YOUNG MAN, technical graduate, several years' experience in rubber work, desires position as chemist in rubber works. Would accept position in other capacity. Excellent references. C. E., care of INDIA RUBBER WORLD. (Nov),

LARGE quantities of India-rubber were exported during 1894 from the African colonies under the German protectorate, according to a recent report of the Hamburg Board of Trade. Caoutchouc takes third position in quantity among the exports from the colonies, and second position in value. Hamburg received from German West Africa (Togoland and Cameroon) 716,980 pounds, valued at $242,745, and from German East Africa 246,880 pounds, valued at $117,485. The value of the rubber exported from the last-named district was $68,250 less than in 1893.

* * *

THE business of making hard-rubber jewelry, at one time of considerable extent, no longer exists, principally because more attractive articles can now be made of other materials at a cost little greater than that of rubber. Hair-pins, side combs, brooches, etc., are among the articles formerly made of rubber, but now made of cheaper substances and plated with silver for those who do not care to pay for solid silver. The Goodyear Vulcanite Rubber Co. (New York) once did a large business in this line. Another concern in the same business was the Standard Rubber Co., still in existence under the same name at Nos. 177–179 Grand street, though no rubber is now used in the establishment. It was established thirteen years ago by Michael Davitt, a practical rubber-worker formerly employed by the Scotch Vulcanite Co., of Edinburgh, who is still connected with the business. Their rubber was vulcanized at larger establishments and only finished and mounted at the factory in Grand street. The place is now devoted chiefly to the manufacture of horn combs and of small animal-heads for the fur trade.

WANTED.—A man used to compounding and running sheet-packing. Only first-class man need apply. State where last employed and what wages are wanted. Address E. P. W., care of THE INDIA RUBBER WORLD. (Jan.)

WANTED.—Mackintoshes or line of rubber specialties to sell the jobbing and retail trade of Iowa, Nebraska, and Colorado. Acquaintance of 15 years in territory. Success guaranteed. Have sold nine thousand dollars in Mackintoshes to retail trade of Iowa in six days. Commission or salary. Address M. L. D., No. 676 W. 14th St., Des Moines, Ia. (Jan. 2t)

WANTED.—A man competent to take charge of mill room who understands compounding and mixing tire stock. Address giving experience, etc., New Brunswick Rubber Co., 88 Reade St, N. Y. (Jan.)

WANTED.—A position as foreman in a mechanical rubber works. Have had 31 years experience in this line of business. Have been a superintendent and foreman in the mechanical department of the N. I. R. Co. for 27 years, also had charge of the vulcanizing of all goods in the druggists and sundry departments. Address S. L. B., Lock Box 121, Bristol, R. I. (Jan.)

DIXON'S Graphite Grease
FOR GEARS OF
Rubber Machinery.
It is unequaled for lubricating and preventing wear of gear wheels.
JOSEPH DIXON CRUCIBLE CO., JERSEY CITY, N. J.

FOR SALE.
Mackintosh Rubber Cloth Clippings.
METROPOLITAN RUBBER CO.,
Foot Grand St., East River, - - NEW YORK CITY.
Mention the India Rubber World when you write